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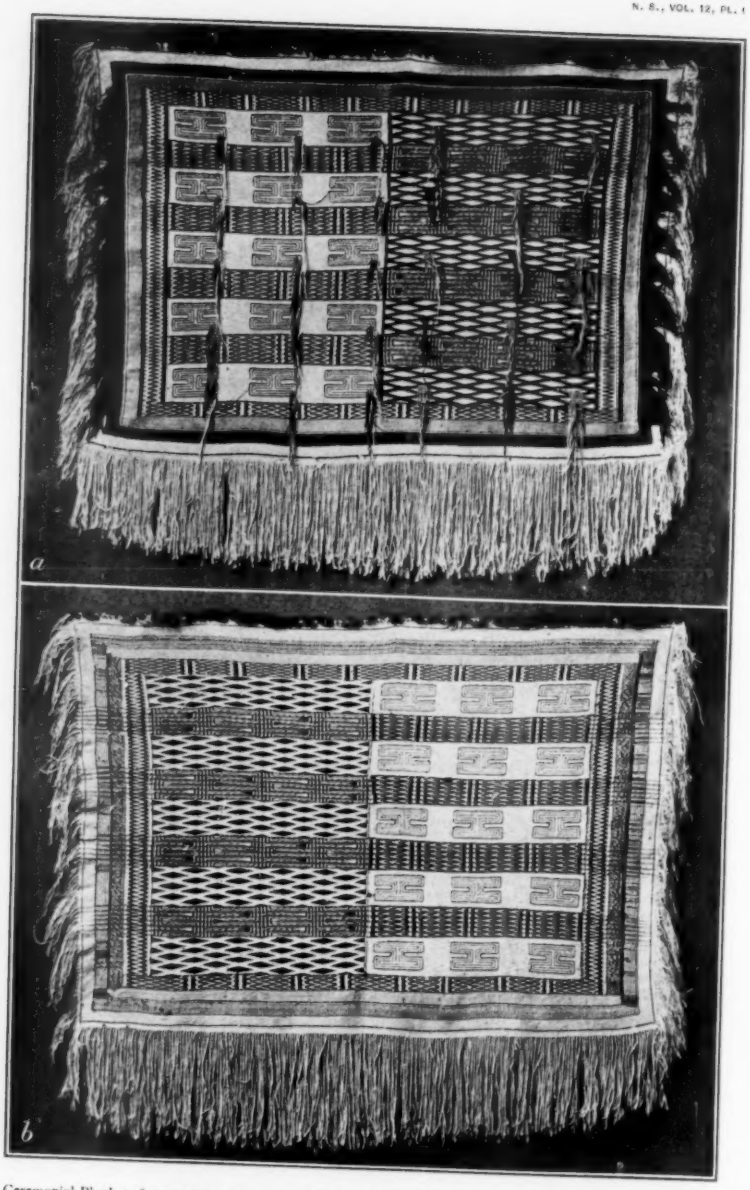

Ceremonial Blanket of mountain-goat wool brought from the Northwest Coast by Captain Benjamin Swift about the year 1800. *a*, outer side; *b*, inner side.

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A NEW TYPE OF CEREMONIAL BLANKET FROM THE NORTHWEST COAST

BY CHARLES C. WILLOUGHBY

THROUGH the generosity of Mr Lewis H. Farlow of Boston and Pasadena, the Peabody Museum of Harvard University has recently acquired a remarkable Northwest Coast blanket. This was found in possession of a grandson of the collector by Dr L. C. Jones of Malden, Massachusetts, who called the writer's attention to this interesting textile.

The blanket was obtained about the year 1800 by Captain Benjamin Swift (1770–1857) of Charlestown, Massachusetts, who, in his younger days, was engaged in the Northwest fur trade. Like most ethnological specimens collected in that region by the early "Boston" traders there is no record of the exact locality where it was procured. It is very probable, however, that it came from the northern coast region of British Columbia.

With the exception of the overcasting of fur at its upper edge the robe is made wholly of mountain goat wool. Unlike the Chilkat blanket no cedar bark was used in the warp. The colors are yellow, a brownish black, and the natural white of the wool.

The color scheme is as follows: the outer band of the border is white with a narrow black line (pl. I, *a*), then a band of black somewhat more than an inch wide; within this and separated from it by a black and white line is a yellow band of the same width. The border of zigzags and bars within the yellow band and enclosing the central field is principally in black and white, the yellow being confined to four spaces upon each of the shorter sides. These

yellow cords continue across the blanket and form the yellow portion of the inner field. This inner field is divided into two parts. The left half is made up of five white bands each having three I-shaped figures in black; and four narrower bands composed of short upright bars and zigzags in black, white, and yellow. The decoration of the right half of the field is composed of five wide bands having a lattice figure in black upon a white ground; and alternate narrower bands consisting of an intricate pattern in black, white, and yellow with a triangle for a motif. There are five horizontal rows of tufts composed of braided black, or black and white strands, six tufts in each row, which decorate the outer side of the central field. Most of these are composed of ends of short woof cords and are not inserted separately. These pendant cords seem to be analogous to the strips of fur which decorate the outer side of skin robes once common throughout the northwest.

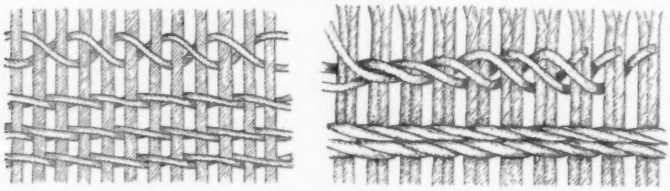


FIG. 1. — Types of weaving, Swift blanket. *a*, Diagonal twined weaving; *b*, three-strand twined weaving.

Most of the patterns which compose the decoration of this robe are common to the Tlingit, Tsimshian, Chilkotin (Athapascan) and northern Salishan peoples, but they seem to bear the closest resemblance to the basket and embroidery designs of the northern half of this region. For a general account of the symbolism embodied in these designs the reader is referred to the writings of Emmons, Teit, and Fernald, and to the forthcoming paper of Dr. Newcombe on the blankets of the Salish.

The grouping of the various units composing the designs of this robe is excellent and shows a high degree of primitive artistic feeling. The most remarkable thing about the robe however is its

technic ; so far as known it shows the highest development of hand weaving among North American tribes. It belongs to an altogether different class from the well known Chilkat blanket in which the various parts of the designs are woven separately by twining double strands of the desired color back and forth across the warp cords until each unit of the design is completed in solid color, the finished blanket being, so to speak, a mosaic in different colors, a technic also common in the variously colored blankets of the Salishan people. The line of junction of the different units composing the design in the Chilkat blanket is covered and outlined by one or more rows of three strand twining (fig. 1, *b*) a weave also present in the Swift blanket, where it is used in forming the I-shaped figures, and as a dividing line between the black and yellow bands of the border, also as a black line near the outer edge of the robe.

The vertical warp cords of the Swift robe are twice as long as the blanket is deep and are looped at the top like the warp in the Chilkat blanket, their lower ends forming a deep fringe. The horizontal woof cords are about half the diameter of those of the warp and are, with few exceptions, continuous, the outer ends of the white and yellow cords being knotted in groups of two and four to form the outer fringe upon either side, while the ends of the black cords form an inner fringe. Unlike the Chilkat blanket, where much of the fringe is composed of inserted cords, this fringe consists wholly of the ends of the warp and woof strands. The ingenious method of finishing the lower part of the woven portion by looping to prevent fraying is shown in fig. 2. Beginning at the left a two-strand twined weaving encloses three cords, the second and third of which are turned upward upon themselves and are again enclosed within the next twist of the double woof strands. In this manner a double fringe is formed, the outer row having twice the number of cords of the inner row.

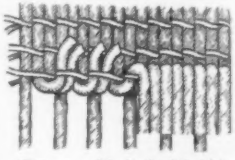


FIG. 2.—Method of finishing lower edge of Swift Blanket.

The narrow white outer band near the edge of the blanket at the top and bottom beyond the black line, and the white band on either side beneath the black fringe, also a portion of the white

ground within the I-shaped figures are of the diagonal twined weaving shown in figs. 1, *a* and 2, while the broader white band at the top and bottom within the black line is of twined weaving with a skip-stitch zigzag pattern. The fields composing the background of the I-shaped figures are in white. They are alike on both sides, and are also in twined weaving with a skip-stitch lattice design (fig. 3), a technic extensively used by the Chilkat in their baskets and basket hats (see also pl. II, *a*, for detail of this and the following types of weaving). The broad outer black and yellow bands forming, so to speak, the frame for the inner design, consist of a new variety of weave (fig. 4, *a*), with an occasional line of three strand twine. This new technic is a double wrapped twining, two smaller cords upon the front occupying the corresponding space of one larger cord upon the back. In this way a fine smooth surface of color is produced, the cloth being as firm as other portions of the blanket where the coarser cords bring out more clearly the complicated patterns. The entire field within this black and yellow border with the exception of the white bars containing the I-shaped figures and an occasional line of three strand twining is made up of zigzag, lattice, and other patterns in mixed twine weaving (fig. 4, *b*), a combination of both diagonal twined and diagonal wrapped twined weaving, which gives the weaver perfect control of the variously colored strands in forming her designs. This is a modified form of a widely distributed method well developed among certain Algonquian and Siouan tribes in the making of cloth bags and is also followed in the construction of pliable basketry by some of the Pacific coast tribes. It reaches its highest development in this garment. Each woof cord is composed of a black and a white strand or a black and a yellow strand and is usually continuous throughout the pattern. The distribution of the yellow strands is clearly shown by

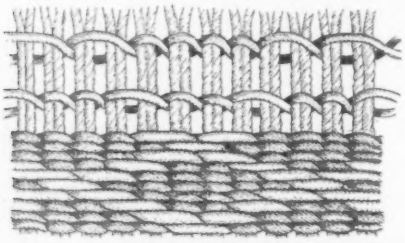
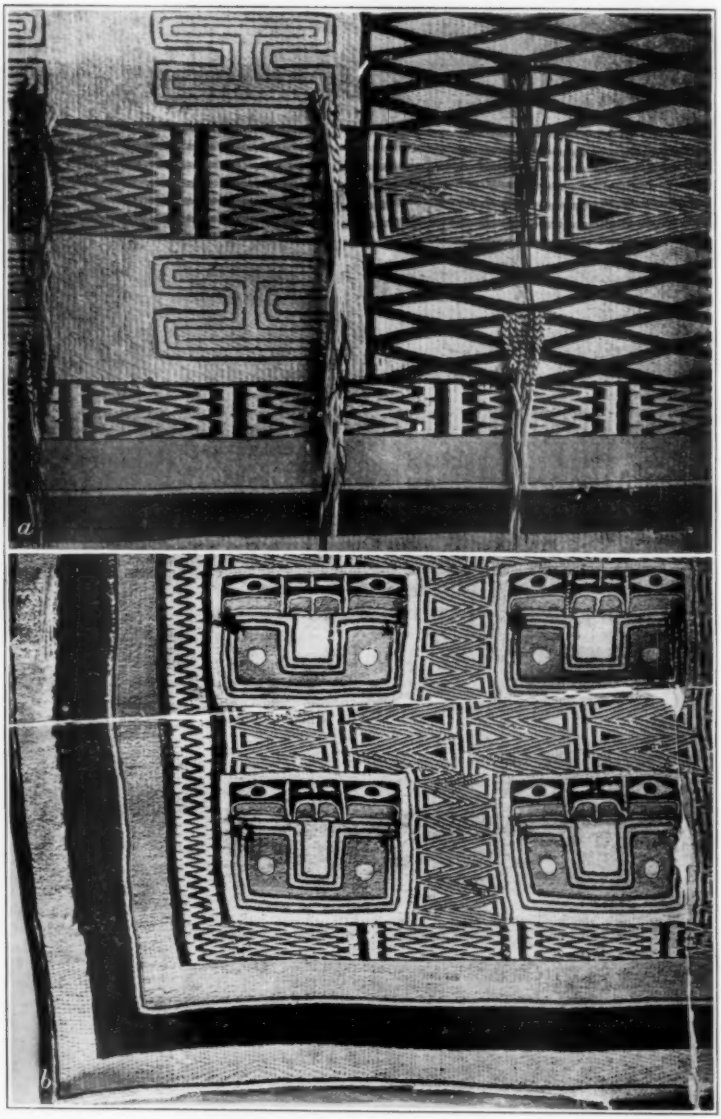


FIG. 3. — "Skip-stitch" twined weaving, Swift blanket.



a, Section of Swift Blanket (pl. 1) showing detail
b, Section of fragment of blanket in Museum of Geological Survey of Canada.

the intermediate shade upon the inner side of the blanket (pl. I, *b*) near the outer edges where they are knotted and form part of the fringe. They may also be distinguished in the horizontal band between the two I-shaped figures in pl. II, *a*. The colors of the patterns composing this inner field are reversed, the blanket having a positive and a negative side, a characteristic wanting in most other known Northwest blankets. As will be seen in the

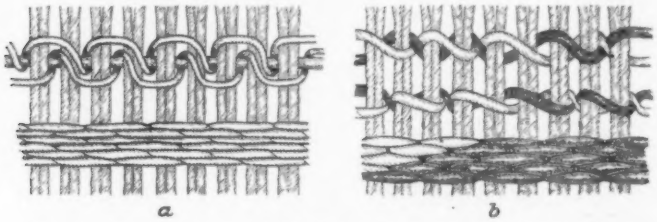


FIG. 4. — Types of weaving, Swift blanket. *a*, Double wrapped twined weaving; *b*, mixed twined weaving composed of diagonal twined and diagonal wrapped twined weaving.

drawing (fig. 4, *b*) each double woof cord is composed of two strands of different colors twined in such a manner that either color appears upon the surface at will. One or two double warp cords are included in each twist of the double woof strands as the pattern may require but the manipulation of the woof strands throughout the entire field is as illustrated in the drawing, the relative arrangement of the two methods of twining there shown varying of course as the pattern changes. Unlike the Chilkat and most other twine woven blankets of the Northwest, where each unit of a design is woven independently in one color, in this blanket the woof cord of two differently colored strands is inserted in one continuous line, each twist forming a portion of the many adjacent figures, a method requiring a high degree of efficiency on the part of the weaver.

In most other examples of mixed twined weaving the two sides of the cloth are technically different. This is owing to the greater tension of some of the strands at the back. In this blanket the strands are drawn with equal tension and the weaving has the same appearance upon either side although the colors are reversed.

Of the many varieties of hair, wool, and vegetal fibre used in former times for weaving textiles by the Indians throughout the United States and in certain sections of Canada, the wool of the mountain goat was especially adapted to this work. Within its restricted area it was fairly abundant, required little preparation for use and took the primitive dyes admirably. It was not always necessary to kill the animal to secure the wool, for in the spring and summer when the coat is being shed "every bush and tall dry weed above timber line is festooned with tufts of wool that can be picked off in handfuls."

Goat wool formed a considerable article of commerce and was exchanged by the interior tribes with the people of the coast for shells and other coast products. Blankets of goat wool or of dog fleece were in use from the Columbia River, where they are recorded by Lewis and Clark, to the Chilkat in Alaska. In certain sections of the southern region the hair of the dog, and perhaps of other animals, and the down of birds were also used, either with or without the addition of goat wool. The dog was of a wooly haired variety extensively bred for its white fleece, from which was woven a considerable part of the clothing of the people of the Puget sound region and adjacent territory. The fleece was removed from the live animal, probably with shell knives. Vancouver, doubtless the first European to come in contact with the Puget sound tribes, thus describes this animal.[1] "The dogs belonging to this tribe of Indians were numerous, and much resembled those of Pomerania, though in general somewhat larger. They were all shorn as close to the skin as sheep are in England; and so compact were their fleeces that large portions could be lifted up by a corner without causing any separation. They were composed of a mixture of a coarse kind of wool, with very fine, long hair, capable of being spun into yarn. This gave me reason to believe that their woolen clothing might in part be composed of this material mixed with a finer kind of wool from some other animal, as their garments were all too fine to be manufactured from the coarse coating of the dog alone. The abundance of these garments among the few people we met with, indicates the animal from whence the raw material is procured to

[1] Vancouver's Discovery of Puget sound, Meany, reprint, p. 136.

be very common in this neighborhood; but as they have no one domesticated excepting the dog, their supply of wool for their clothing can only be obtained by hunting the wild creature that produces it; of which we could not obtain the least information."

On another occasion he writes of meeting about 200 Indians "some in canoes with their familes, others walking along the shore attended by about 40 dogs in a drove, shorn close to their skin like sheep."[1] Of the clothing of this region he writes, "Their native woolen garment was most in fashion, next to it the skins of deer, bear, etc.; a few wore dresses manufactured from bark, which, like their woolen ones were very neatly wrought."[2]

There are two old Salishan blankets in the Peabody Museum at Cambridge. These were collected by Roderick McKensie previous to 1819. The first, from Fraser river, is in coarse diagonal twined weaving, a technic shown in figs. 1, *a* and 2. It seems to be made principally of goat wool. It is fringed but not otherwise ornamented. The second specimen is made of dog hair and bird down, with perhaps some goat wool, and is twilled woven. The ornamentation consists of narrow brown lines a few inches apart, crossing each other at right angles. Like most blankets of this southern region it is fringed.

A blanket from the lower Fraser is illustrated in Dr Newcombe's recently published guide to the anthropological collection in the Provincial Museum at Victoria. Its central field is twilled woven. It is decorated with bars composed of diamond-shaped figures in black and white. The decoration of the border consists principally of groups of black and white diamonds intersecting. These are apparently in simple twined weaving, the patterns being in solid color. A few other old dog hair or goat wool blankets are known which may be attributed to this southern region, the finer specimens being in various colors, with patterns consisting of squares, zigzags, and other simple figures. Technically the weaving is similar to that of the Chilkat robes, most of the designs being in solid color alike on both sides. There are two blankets of this type in the National Museum, one of which was collected by Wilkes. Dr

[1] Vancouver's Discovery of Puget Sound, Meany reprint, p. 162.

[2] Ibid., p. 122.

Newcombe has kindly sent the writer photographs of a blanket and a rug of the same type of weaving from the lower Fraser river. These will be described in his paper to be published by the Field Museum.

The Makah[1] and neighboring Salishan tribes made blankets of hair or wool combined with bird down. There is a beautiful specimen of this type in the National Museum. The inner field is plain, the cords of which it is woven being nearly concealed by fluffy down caught into the strands. The inner field of the finished fabric has much the appearance of being composed wholly of down as the woven portion shows but little. The garment is finished with a wide fringed border without the addition of down, woven in pleasing colored patterns. The above blankets belong to an altogether different class from the Swift robe.

Captain Cook writes as follows of the blankets of the Nootka:[2] "They are of different degrees of fineness, some resembling our coarsest rugs or blankets and others almost equal to our finest sort, or even softer, and certainly warmer. The wool of which they are made seems to be taken from different animals, as the fox and the brown lynx, the last of which is by far the finer sort; and in its natural state differs little from the color of our coarser wool, but the hair with which the animal is also covered, being intermixed, its appearance when wrought is somewhat different. The ornamental parts or figures in the garments, which are disposed with great taste, are commonly of a different color, being dyed, chiefly either of a deep brown, or of a yellow; the last of which when it is new equals the best of our carpets as to brightness."

Dr Newcombe has also forwarded a photograph of a somewhat dilapidated blanket, a portion of one end only being shown. This was obtained about the year 1793 and is now in the British Museum. The inner field consists of a lattice design with diamond-shaped figures in black and white within the spaces formed by the crossbars. There is an inner border of the zigzag design and an outer border of yellow (?), black, and white bands as in the Swift specimen. This blanket is undoubtedly of the same origin as the Swift

[1] Charles Wilkes, United States Exploring Expedition, vol. iv, p. 488.

[2] Cook's Voyages, vol. vii, p. 325, Admiralty Edition.

robe, the types of weaving being the same in the two specimens. They differ essentially from the lower Fraser blankets above noted. A portion of a third blanket of the same origin as the Swift robe is in the museum of the Geological Survey of Canada. This has been made into a tunic or shirt as is often the case with fragments of ceremonial robes that have been cut up at potlatches. A section of this is illustrated in pl. II, *b*. The ground is composed of zigzags and triangles like those upon the Swift robe and the technic of this portion of the two blankets is the same. Four conventionalized faces of the usual Northwest type appear at regular intervals, and below each is a design resembling one half of an I-shaped figure, such as appears on the Swift robe, split vertically through its center and turned upon its side. These faces and the latter figures are apparently woven in the same manner as those in the Chilkat blanket. There were originally tufts of pendant cords upon the surface, as will be seen by a close examination of the photograph. The curator of the museum could give the writer no information as to the origin of the specimen.[1] These three blankets doubtless occupy a geographical position between the well known Chilkat blanket of the north and the blankets of the Salishan people of the south. Technically they form a class by themselves. The only other examples of the peculiar type of mixed twined weaving shown in these blankets thus far known to the writer occur in the wool border of a cedar bark robe in the British Museum and also in the lower portion of the borders of very old Chilkat blankets. It is an interesting fact that the pattern of these borders is also like certain portions of the ground of both robes shown in plate II. Take for instance the narrow long section above the two upper conventionalized faces in figure *b* of this plate and we have a close reproduction of this border, both in technic and design.

The cedar bark robe above referred to is illustrated on plate xxiv, figure 2, of Emmons' memoir on the Chilkat blanket, and is

[1] The photograph from which the illustration (pl. II, *b*) was reproduced was kindly furnished the writer by the American Museum of Natural History, New York City. A drawing of this blanket is also shown on p. 388, fig. 581, *b*, of Emmons' paper on the Chilkat Blanket, Memoirs of the American Museum of Natural History, vol. iii, pt. iv.

supposed to have been obtained from the western coast of Vancouver island. If it came from that region, as seems probable, it is doubtless of Wakashan origin. In the Chilkat blanket the same kind of mixed twined weaving, forming a small section of the zigzag design above noted, appears on the lower portion of the borders of a beautiful old specimen in the Peabody Museum at Salem obtained previous to 1832, and also on another old specimen in the Peabody Museum of Harvard University. This mark seems to be of traditional significance. In later blankets the mark has degenerated into a simple binding of black and yellow cords. The same pattern also occurs in the center of the Fraser river rug above referred to, but the weaving is of a different kind. It seems probable that the Swift robe is neither Tlingit nor Salishan. It undoubtedly came from the mainland and probably from the northern coast region of British Columbia, but more data are necessary before it can be definitely located in any section of this region. The writer will be glad to hear of other specimens of this type of blanket which may be known to readers of this paper.

PEABODY MUSEUM, HARVARD UNIVERSITY,
CAMBRIDGE, MASSACHUSETTS.

AN INTRODUCTORY PAPER ON THE TIWA LANGUAGE, DIALECT OF TAOS, NEW MEXICO[1]

By JOHN P. HARRINGTON

NO fact better illustrates the present fragmentary condition of our knowledge of American aboriginal languages than that the tongues of the Pueblo Indians of the southwestern United States have until now remained uninvestigated. Powell in his Indian Linguistic Families of America, published in 1891,[2] is forced to base the classification of these languages on a few manuscript vocabularies collected in a haphazard manner by various persons at various times. These vocabularies are at present deposited in the archives of the Bureau of American Ethnology at Washington. The unreliable character of these records and of any classification based on them is best appreciated by one who, like the writer, has had opportunity to compare them directly with the spoken languages. More recently a few Pueblo texts have been published. We possess a specimen of the language of Isleta pueblo recorded by Gatschet,[3] a rendering of some Christian hymns and doctrines in the Laguna language by the missionaries Bercovitz and Paisano,[4] and a record of several Zuñi songs made by Mrs. Stevenson.[5]

No study of the phonetics or structure of any of the Pueblo languages was however attempted, as far as we know, previous to the investigations which have been conducted during the past two years by the School of American Archæology under the Archæological

[1] Presented at the Boston meetin of the American Association for the Advancement of Science, December, 1909.

[2] Powell, Indian Linguistic Families of America North of Mexico, *7th Ann. Rep. B. A. E.*, Washington, 1891.

[3] Gatschet, A Mythic Tale of the Isleta Indians, New Mexico, *Proc. Am. Philos. Soc., Dec., 1891*, pp. 208–218.

[4] Bercovitz [and Paisano], Hymn Book and Appendix in the Laguna Indian Language, Laguna, New Mexico.

[5] Stevenson, The Zuñi Indians, *23rd Ann. Rep., B. A. E.*, Washington, 1904, pp. 68–72, 73–88, 156, 486, 583.

Institute of America. Under the auspices of this School the author of the present paper has since July, 1908, been engaged continuously in a study of the group of obviously related languages spoken in the Rio Grande drainage area of New Mexico which Powell has termed the Tanoan.[1]

The Tanoan Languages and Taos Pueblo

In the area drained by the Rio Grande which is now known as northern and central New Mexico there are at present eighteen Indian Pueblos. We follow the Indian custom in enumerating these villages, beginning with those farthest north or northwest: Taos, Picuris, San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, Cochiti, Santo Domingo, San Felipe, Jemez, Sia, Santa Ana, Sandia, Isleta, Laguna, Acoma. In addition to these should be mentioned Pecos pueblo, located on the Rio Pecos and abandoned in 1837. There are at Jemez a few aged persons who still retain a knowledge of the dialect of Pecos. Four villages whose inhabitants migrated from this area in historic times should also be included here. These are: Senecú, Isleta del Sur, and Socorro, established at the time of the Pueblo Indian revolt of 1680 south of the present city of El Paso, Texas, and Hano, founded in 1700 beside the Hopi villages of northeastern Arizona.

The speech of each pueblo is practically a unit, variations presented by division, clan, family, or individual being here ignored; but no two of the pueblos have the same dialect, although the degree of linguistic diversity varies greatly.

Omitting Cochiti, Santo Domingo, San Felipe, Sia, Santa Ana, Laguna, and Acoma, seven villages whose language forms a close unit and has been called Keresan, our preliminary survey leads us to suggest the following classification of the dialects of the remaining pueblos.

A. Tiwa language:

(1) Taos and Picuris dialects.

(2) Sandia, Isleta, and Isleta del Sur dialects.

[1] Pronounce Tánoan; adapted from Tano, the Mexicanized form of a Tewa name applied to the southern Tewa formerly settled about and south of the present Santa Fé, New Mexico.

(3) Piro dialect.

B. Towa language:

(1) Jemez dialect.

(2) Pecos dialect.

C. Tewa language:

(1) San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, and Hano dialects.

The dialects of Sandia, Isleta, and Isleta del Sur have for three centuries been known to the Mexican population of the region by the name Tigua, obscure in origin. A more continental spelling is Tiwa. The term Tigua or Tiwa has also become commonly applied to the closely related idioms of Taos and Picuris. In a recent paper,[1] the writer suggested that the use of this name be extended still more widely to include the Piro dialect. Thus all the dialects of group A would be designated as Tiwa.

It was also suggested that the dialects of group B be known as constituting the Towa language, since the term *tôwa*, meaning "native," is applied by the Jemez and Pecos to their own language.

The language of group C with its numerous village dialects is known to both Indians and whites as Tewa, this being the word in that language equivalent to Jemez and Pecos *tôwa* and likewise meaning "native."

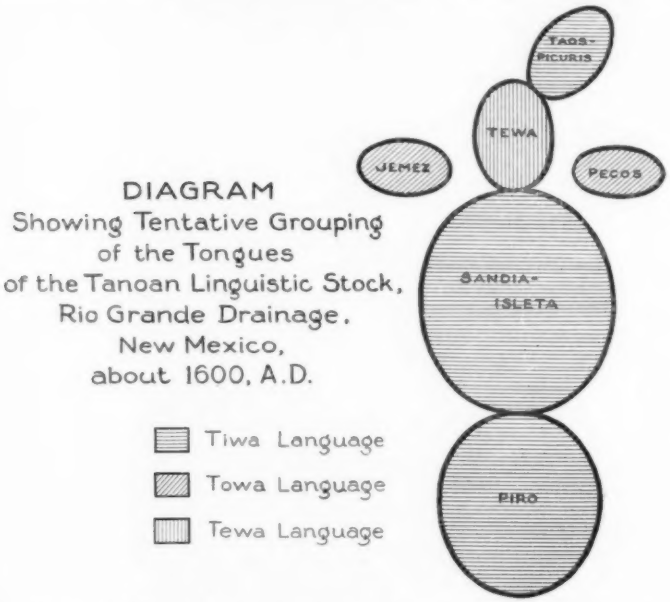
Thus we recognize three languages, Tiwa, Towa, and Tewa. The diagram on the following page shows the relative sizes and positions of the areas occupied by these three languages at a period soon after the coming of the whites.

Roughly speaking, the languages still obtain in the areas in which they were then spoken, the Piro dialect of Tiwa forming a notable exception. Piro was formerly spoken in the country immediately south of that held by the ancestors of the Sandia and Isleta. During the eighteenth and nineteenth centuries the dialect was heard only in the neighborhood of El Paso, and is probably now extinct.

The population of Taos like that of the other pueblos is composite in origin. Tradition states that long ago a number of

[1] Harrington, Notes on the Piro Language, *American Anthropologist*, Oct.–Dec., 1909, pp. 563–594.

clans speaking various languages confederated to form the Taos people, and that this people throughout its subsequent history in times of war and peace has grown by adopting individuals or groups of individuals speaking alien tongues. Generations ago, it is said, very many Ute Indians were incorporated into the Taos tribe as the result of a war. Probably such tradition faithfully reëchoes the



prehistory of Taos. It is certain that the village has long been the melting pot of peoples and that these peoples spoke various languages. The conquering and surviving tongue is Tiwa, a Tanoan language.

Taos Tiwa exhibits considerable divergence from the Sandia-Isleta-Isleta del Sur variety of the language, perhaps indicating long separation. An Isleta man who recently visited Taos preferred to conduct his conversation in Mexican jargon, fluent speech in the dialect of Taos being quite unintelligible to him. And yet com-

parative study reveals the closest relationship between the two dialects. When Taos and Picuris people talk together, Tiwa is used, these two dialects differing as little from one another as do the dialects of the Tewa pueblos. Piro possibly differed as widely from each of the other subgroups as these differed from each other.

A comparative study of the three languages will prove most interesting. Tiwa, when compared with the adjacent Tewa, appears to represent both phonetically and structurally a more archaic form of Tanoan speech. In fact, the relation of Tiwa to Tewa seems not unlike that which Von der Gabelentz would have us believe Tibetan bears to Chinese. Final consonants still retained in Tiwa, have in Tewa decayed or disappeared. Thus Taos *nam-*, Tewa *na*^{n}, earth. Diphthongs prominent in Tiwa appear to have become in Tewa simple vowel sounds. Thus Taos *sõąn-*, Tewa *sɛ*^{n}, man. Open vowels in Tiwa are generally represented in Tewa by close vowels. Thus Taos *pa*, Tewa *po*, thigh. The tongue-raised vowels of Tiwa exhibit in Tewa less raising of the tongue. Thus Taos *t*^{a}*õ*, Tewa *t*^{a}*a*, to live. Many formative elements which may not be omitted in Tiwa do not make their appearance in Tewa at all. Thus Taos *'ã*^{n} *mã*^{n} *hũã*, Tewa *'ũ*^{n} *mã*^{n}, you two are going; Taos *sõã nä na*, Tewa *sɛ*^{n}, man. A Tiwa sentence when translated into Tewa usually contains fewer sounds and fewer syllables and requires less strenuous motions of the organs of speech.

A marked musical accent has developed in Tewa, possibly as an accompaniment of some of the monosyllabic tendencies described above. This accent is as noticeable and, to the understanding of many words, is as indispensible as are the "tones" of Chinese. For example, the cognates of Taos *p'a*, moon, *plã*, trail, and *p'å*, water, are respectively Tewa *p'o*, moon, *p'o*, trail, and *p'o*, water, distinguishable by their musical pitch only. The vowels of the three Tewa words seem identical in quality, length, and stress. The difference lies in the musical pitch, which in *p'o*, moon, is high; in *p'o*, trail, is lower; in *p'o*, river, is low and falling. Such pitch accents of Tewa words are difficult for the foreign ear to recognize; it is almost impossible for adult foreign organs to correctly reproduce them. Musical accent is present in Tiwa, as it is in all languages, but is not noticeable and in no case appears essential to the

interpretation of a word. The writer knows of no other American language in which features saliently characteristic of Chinese are developed to such a remarkable extent as in Tewa. There are many tendencies in language, and those which result in monosyllabism are as yet imperfectly understood. The Tanoan languages offer a promising field for the study of the growth of these tendencies.

Among various other developments characteristic of Tewa which have not been discovered in the other Tanoan languages, ablaut deserves mention here. Ablaut appears in Tewa noun and adjective elements. Three series occur: *u* — *e*, *u*^{n} — *e*^{n}, *a* — *i*. The *u*, *u*^{n}, or *a* grade indicates large objects; the *e*, *e*^{n}, or *i* grade indicates small objects. Examples are: *hu*, arroyo, *he*, arroyito; *mbu*^{n}, big bend, *mbe*^{n}, little bend; *p*^{o}*agi*, large and flat, *p*^{o}*igi*, small and flat. Prolonged search has failed to reveal any similar phenomenon either in Tiwa or Towa.

The German linguist Von der Gabelentz mentions an invention of ablaut in the baby-talk of his little nephew which forms a striking parallel to the Tewa usage. This child expressed itself largely in a language of its own making. *Lakail* was the name applied to an ordinary chair, *lukull* meant great arm-chair, *likill* was used to signify little doll's chair. Again *mem* was the word for watch or plate, *mum* referred to a large plate or a round table, *mim* was the name for the moon, while *mim-mim-mim-mim* meant stars.[1]

The Towa language of Jemez and Pecos, as judged by some of its developments, appears to hold a position intermediate between Tiwa and Tewa.

Inasmuch as Tiwa is apparently the most archaic of the Tanoan group as well as the simplest phonetically considered, an outline of that language is here presented, the dialect of Taos having been chosen. The Taos, as is usual, consider themselves superior to all other Indians. They have infinite disdain for their southern neighbors, the Tewa, who are regarded as having perverted customs and as speaking a degenerate form of the Taos language. They pride themselves especially on occupying the highest and most northerly of all the Pueblo villages, and the tradition that the Pueblo Indians migrated originally from the north is so impressed upon their minds

[1] Quoted by Chamberlain, *The Child*, New York, 1907, p. 134.

that this location alone seems to them sufficient proof that they are the most pristine and uncorrupted of Pueblo villagers.

Taos Indians usually speak of their pueblo as *T'ŏā t'a* when they are in or above it. When below the village *T'ŏā bâ* is used. *T'ŏā* is the equivalent of Tewa *te*, houses, village; the affixes have locative force. It is said that an old name of the village is *'Ǐa ła-p'ąī t'a* or *'Ǐa ła p'ąī bâ*, meaning the place of the red (*p'ąī*) willows (*'ıą ła*). The people of Taos commonly call themselves *T'ŏā t'a-t'ąī n ą̄ ma*^{n}, signifying literally the people who live at the village. The form Taos is perhaps a Mexican corruption of *tŏā-*.

The Taos informants were three in number: Manuel Mondragon, José Lopez, and Santiago Mirabal. Most of the material was obtained from the informant first named. His Indian name is *T'ō l tō*, Sun Elk. He is a patient fellow and is deeply interested in the recording of his language.

PHONOLOGY

General Phonetic Character

The impression which the Tiwa language makes on the ear is smooth and pleasing. There are no harsh consonants and no combinations of consonants except those caused by elision. The stops are gently exploded. The sounds *l*, *m*, and *n* are frequent. The oral vowels are clear and sonorous. The orinasal vowels have little of the unpleasant nasal resonance which results when the velum is drawn far forward. There is little in the pronunciation which reminds one of the tense, impure vowels of Towa; of the choking sounds, excessive nasalization, and remarkable development of musical accent which characterize Tewa; of the coarse, crackling, half voiced quality of Keresan; or of the voiced and unvoiced mixed vowels prominent in Ute and in some other Nahuatlan dialects.

The Individual Sounds

It apppears that the Taos distinguish in their speech eleven vowels and twenty-five consonants, making in all thirty-six etymologically distinct individual sounds. These sounds vary considerably according to their setting. Yet with a little practice they can be recognized by the speaker of a European language even when run together in rapid speech, and can be readily imitated.

The vowels are presented in the customary form of the vowel triangle. The contact positions of the consonants are given in the order in which these are visited by the exhaled breath. Beside each sound stands in parenthesis an Indo-Germanic word containing a nearly equivalent sound.

Vowels

Orinasal vowels:

a^n (Fr. *an*gle, angle)

$\bar{a}^n$ (Fr. d*in*don, turkey) $\hat{a}^n$ (Fr. dind*on*, turkey)

i^n (Skt. raçm*īn*r, rays) u^n (Skt. sūn*ūn*r, sons)

Oral vowels:

a (Eng. f*a*ther)

ā (Fr. l*à* bas, down there) â (Fr. là b*as*, down there)

i (Eng. mach*i*ne) u (Eng. r*u*le)

ō (Ger. schön)

Consonants

Semi-vowels:

j (Eng. halleluj*a*h)

w (Eng. a*w*ay)

Larynx consonants:

' (may open Eng. vowels beginning words)

h (Eng. *h*ow)

Back of tongue consonants:

k (South Ger. *k*atze, cat)

k' (Eng. too*k* off)

x (Ger. a*ch*)

g (Eng. *g*o)

k^u (Eng. *qu*arter)

x^u (North Eng. *wh*at)

Front of tongue consonants:

t (South Ger. *t*ag, day)

t' (Eng. ha*t* off)

t^c (Eng. swea*t*-*h*ouse)

d (Eng. *d*o)

t^s (South Ger. *z*ahn, tooth)

$t^{s'}$ (Eng. ha*ts* off)

s (Eng. *s*o)

ɬ (Welsh *ll*ai, clay ; Eng. pa*th*less)
l (Eng. *l*ove)
n (Eng. *n*ow)

Lip consonants :

p (South Ger. *p*oet, poet)
p' (Eng. ca*p* off)
p° (Eng. shee*p*-*h*orn)
b (Eng. *b*oy)
m (Eng. *m*an)

Voiced and voiceless sounds are not as clearly distinguished as in English.

The orinasal, i. e., mouth-nose, vowels are pronounced with the velum hanging freely as when one breathes through mouth and nose simultaneously. In their production the voiced breath escapes through both mouth and nose. The calls of the lower mammals are most frequently orinasal. The birth-cry of the human babe is $\ddot{a}^n$, and a similar sound is heard in the groaning of the adult. Vowels of this class are very numerous in Tanoan.

The oral vowels are produced with the velum drawn toward the rear wall of the pharynx so as to allow little or none of the voiced air to escape through the nose. The sound $\ddot{o}$ has no counterpart among the orinasal vowels. It resembles weakly rounded German $\ddot{o}$. It sounds like the "impure vowel" of Shoshonean dialects which has been variously written ö, ȯ, ü, ü̇.

Vowels are accompanied by much breath, especially at the close. Vowels following *h*, *x*, *t*° and *p*° are more breathy than others. A special series of aspirated vowels has not been detected.

A voiceless vowel of the quality of a^n results when a^n is most completely elided within a sentence.

j and *w* differ from *i* and *u* respectively only in being much shorter. They have no more fricative quality than do the vowels which they resemble.

The explosion produced by closing and then suddenly opening the glottis is one of the commonest sounds in the languages of the world. This sound is heard in coughing and grunting. In English it may occur as an opener of vowels commencing a word. It is unnaturally audible between the words at and all in a current affected

pronunciation of the phrase at all which distinguishes at all from a tall. This sound may be called the glottal catch or the glottal stop. In Taos it is slightly audible before all syllables which do not begin with any other consonant. It also combines with *k*, *t*, *p*, and t^s to form *k'*, *t'*, *p'*, $t^{s'}$, described below. It is not heard as a vowel closer.

The consonant *h* is a weak whisper caused by glottal narrowing. It has the timber of a contiguous vowel or vowels.

There are five series of mouth stops: (1) weakly voiced, *k*, *t*, t^s, *p*; (2) with simultaneous closure of the glottis, *k'*, *t'*, $t^{s'}$, *p'*; (3) with following aspiration, t^s, p^f; (4) with simultaneous *u* position, k^u; (5) weakly voiced with long and firm contact, *g*, *d*, *b*. There is perhaps still another series, — long and firm *k*, *t*, *p*, which have been observed only as a result of the elision of the syllables ga^n, da^n, ba^n respectively. There are indications that the fricative continuants *x* and x^u, now lacking complete closure, are respectively derived from earlier k^f and k^{fu}, thus making series (3) and (4) more complete; see below. However, ga^n occasionally assumes the form *xu*, suggesting a connection between *x* and *g*.

The stops *k*, *t*, t^s, *p* are very gently exploded as in South German;[1] voice apparently does not cease and is prominent sooner after the explosion than in the case of English *k*, *t*, *p*. The spellings *kg*, *td*, *pb* would suggest the character of the sounds.

In pronouncing *k'*, *t'*, $t^{s'}$, *p'* a closure of the glottis seems to occur simultaneously with the assuming of the stop position by the organs of the mouth. The larynx is then slightly raised, compressing the air between the glottis closure and the mouth closure. As a result of the formation of this small chamber of compressed air the mouth explosion when it occurs has slight force and differs in acoustic effect from a mouth explosion the air pressure of which is produced directly by the lungs. A slight explosion in the larynx resembling the ordinary glottal stop described above follows immediately after the mouth explosion. Some of the makers of Tiwa vocabularies have omitted to write initial *k'*, *t'*, *p'*. They probably heard only the larynx explosion or glottal stop, which as elsewhere

[1] This pronunciation is illustrated by the much quoted saying that King George I of England was fond of "boetry and art."

they neglected to record. Thus "*â*," water, instead of *p'â*. A similar series of stops existing in the Mayan languages of Mexico and Central America have been termed "letras heridas," wounded letters. Perhaps the "fortes" and "velars" of some other American languages are in reality such sounds. The Georgian language of the Caucasus possesses stops which sound exactly like these of Tiwa. The nearest English approximates are contained in such combinations as took off, hat off, hats off, cap off, when the vowel of the second word is opened by the glottal stop. A good name for the consonants of this series would be *grunted* stops.

T°, *p°* differ from *t*, *p* respectively by being accompanied by more breath. They are not harsh sounds, but the breathy glide following the explosion is very audible. The sign ° is adopted from Bell's Visible Speech.

As remarked above, *x* seems to belong to this series, but is now a continuant resembling German *ch*. The corresponding Tewa sound is *k°*. Tewa may here be more retentive than Taos. If it should be proved that Taos *k°* has become *x* while *t°* and *p°* have remained unchanged, the development is paralleled in classic Greek, in which it is believed *χ* became a continuant earlier than did *θ* and *φ*.

K^u and *x^u* are single sounds, being simultaneous pronunciations of *k* and *w*, and *x* and *w* respectively.

G, *d*, *b* have long, firm closure as in English. When *ga^n*, *da^n*, *ba^n* are elided the resulting *k*, *t*, *p* have this same kind of closure but less voice, although they have been written in this paper exactly like the *k*, *t*, *p* of different quality and origin.

S and *ɬ* are often weakly voiced. The *s* position is with tongue touching the upper side teeth and gums, allowing breath to escape across the front teeth. The *ɬ* position is in a way the reverse of that of *s*. The tongue is pressed against the upper front teeth and gums, but lets breath escape across the side teeth. Usually more of the sound is produced at one side of the mouth than at the other. The sound resembles Welsh *ll*, less closely English *thl*. It has usually been written *s* by vocabulary makers. In Tewa, both Tiwa *s* and *ɬ* are represented by a single s-like sound.

The contact of *l*, *n*, *m* is long and firm.

Phonetic Processes

The Tiwa syllable consists of a consonant plus a vowel or diphthong. Syllable-closing consonants and apparent combinations of consonants are due to elision; see below.

Combinations of vowels are, however, frequent. Peculiar diphthongs are largely responsible for the strange impression which the language makes on our ear. Each Taos diphthong consists of two rapidly uttered and equally stressed vowels so welded together as to form a single syllable. The duration of the diphthong is not greater than that of an undiphthongized vowel. Therefore in writing these diphthongs a breve has been placed over each of the constituent vowels. The chief difference between Taos diphthongs and those of Indo-Germanic languages seems to be this, that in the former each of the vowels is pronounced with equal force, while in the latter one element invariably bears greater stress than does the other. The majority of the Taos diphthongs admit of no analysis into simpler morphological elements, but correspond as wholes to simple, undiphthongized vowel sounds in the Towa and Tewa languages, in which no diphthongs are known to occur. Compare Taos *ɬŭă*, Tewa *su*, arrow; Taos *p'ɪă*, Towa *p'e*, mountain. An examination of words borrowed by one Tanoan language from another, mostly personal and place names, makes it seem probable that the diphthongs of Taos Tiwa are not the result of recent vowel-breaking or of combinatory processes, but are rather a feature of archaic Tanoan speech preserved in Tiwa. The development in Towa and Tewa would be comparable to that which rendered the Slavic languages of the Indo-Germanic stock diphthongless. A few of the Tiwa diphthongs, however, clearly originate in a juxtaposition of vowels occasioned by the grammatical processes of the language. Thus *'ɪă mu*^{n}, they 3+ animate them 3+ inanimate saw. But one is also permitted to say *'i u mu*^{n}. The following diphthongs occur in the Taos material gathered: *ă*^{n}*ɪ*, *ă*^{n}*ŭ*, *ă̆*^{n}*ɪ ŭ*^{n}*ɪ*, *ăɪ*, *ăŭ ɪă̆*^{n}, *ɪă*, *ɪŭ*, *ă̆ɪ*, *ŭă*, *ŭɪ*, *ŏă*, *ŏɪ*.

Taos syllables are pronounced with force so nearly equal that stress accent has not been indicated. Musical accent is probably of even less importance than in English.

Like other speech, that of Taos is slurred or elided. There lives

at the pueblo a man of French and Mexican descent who has a good knowledge of the language, but as often as he speaks it the Indians are greatly amused, chiefly it is said because he does not elide correctly.

The law of elision requires that the syllables *ja*^{n}, *wa*^{n}, *xa*^{n}, *ga*^{n}, *da*^{n}, *la*^{n}, *na*^{n}, *ba*^{n} *ma*^{n} appear only before a pause, usually only at the end of a clause or sentence. Within clauses and sentences they assume respectively for reasons which further study must explain either the forms *ju*, *wu*, *xu*, *xu*, *du*, *lu*, *nu*, *bu*, *mu*, or *i*, *ŭ*, *k*, *k*, *t*, *l*, *n*, *p*, *m*. It should be noted that *a*^{n} of all the vowels most nearly approximates the Tiwa articulatory basis, and that a non-syllabic unvoiced vowel of the timber of *a*^{n}, which has not been written, can be perceived after most completely elided forms of these syllables. The *u* forms are remarkable. This law gives rise to all final consonants and groups of consonants.

Ablaut or other regular vowel modification has not been observed except perhaps in the case of the elided elements just referred to.

Rapidly pronounced vowels differ in quality from the normal vowels of careful speech. They are apt to imitate the timber of vowels of contiguous syllables. This phenomenon is known as assimilation. Assimilation of consonants is heard even in slow speech. Thus by progressive assimilation, *t'ŏ n t'a*, for *t'ŏ m t'a*, where she lived; by retrogressive assimilation, *'a*^{n} *n n i ɬa t'ŏa mă*^{n}, for *'a*^{n} *n wi ɬa t'ŏă mă*^{n}, they 2 went to get wood, it is said.

Dissimilation of reduplicated syllables is presented in *t'i ɬi ɬi*, make a s-s-s sound.

An interesting permutation of consonants is the replacement of *k*, *t*, *t'*, *p* by *k'*, *t'*, *t''*, *p'* respectively in certain verb forms. This suggests how such forms as Nahuatlan *pa* and Tanoan *p'å*, *p'o*, water, may be related.

Reduplication is very seldom resorted to by the language. Only three reduplicated forms were encountered in the material collected. These are: *xu l xu l ta*, *'a na*, round dance (*ta*,*'a na*, dance); *t''a l t''a l'ă*^{n} *na*, rattle; *t'i ɬi ɬi*, make a s-s-s sound. Repeated activity is denoted in each case.

Morphology

Roots and Affixes

Tiwa like other languages is an exceedingly complex structure built of more or less firmly agglutinated elements. These elements are the units of the structure of language. Psychology discovers in the element a bundle of associations; physiology, a succession of movements and positions of the speech-organs; physics, a complex of sound waves. Morphology, the study of linguistic structure, regards the element as the molecule of language, and does not attempt to analyze it.

It is convenient to apply the term root to the significant, cluster-originating element or elements, and to designate as affixes other elements of a cluster the function of which is modificatory or associative.

In the Tiwa language the morphological element is usually a syllable, that is, a consonant plus a vowel or diphthong. Occasionally two elements combine to make a syllable, or two or more syllables constitute a single element.

The process of combining root elements with other root elements is known as compounding. The process of combining root elements with affixes is known as affixing.

Tiwa compounds are of three types: (1) noun + noun; (2) noun + verb; (3) verb + verb. Letting n stand for noun, v for verb, all Tiwa compounds are represented by the formula $n \pm n \pm n \pm n \pm v \pm v \pm v \pm v$. Formative affixes never stand between the roots compounded. The compound behaves precisely as if it were a single root. The meaning of the compound often differs from that of either of the component roots, compounding thus becoming a fruitful means of enlarging the vocabulary.

Affixes may be distinguished by their position as prefixes, infixes, and postfixes (suffixes). Tiwa root elements are commonly modified by postfixes and prefixes; infixes do not occur.

Two Parts of Speech

Two kinds of root elements, or in other words two parts of speech, are distinguished. These are with their Taos names: (1) *xâ^{n} nã ma^{n}*, the noun root; (2) *tu^{n} 'u^{n} na*, the verb root. Nouns,

some adjectives, pronouns, adverbs and conjunctions may be roughly assigned to the former class ; verbs, some adjectives, and interjections belong to the latter. English adverbs, prepositions, and inflexions are largely expressed by affixes. Some elements may be employed, with different affixes, both as noun and verb roots.

XÂⁿ NÄ̈ MAⁿ, THE NOUN ROOT

Gender, Number, and Case

Gender, number, and case may find formal expression in the affixes of the noun, in the pronoun, or in processes of compounding.

Animate and inanimate gender is distinguished by noun terminations, or by pronoun elements prefixed to noun or verb, or may be unexpressed.

Singular and 2+ plural number is indicated by noun terminations ; either singular and 2+ plural, or singular, dual, and 3+ plural number may be indicated by pronoun elements prefixed to noun or verb. When a noun is not the last member of a compound, its number cannot be expressed by means of noun terminations.

Subject-case denoting subject, object case denoting object, and referential case denoting less intimate relation between noun and verb are expressed partly by the presence or absence of noun terminations, partly by noun + verb compounding, chiefly by pronoun elements prefixed to the verb.

The Noun

The Taos noun is under certain syntactic conditions accompanied by a postfix which we call a noun termination. The postfix renders the meaning more demonstrative and emphatic, frequently defines gender as animate or inanimate, and indicates number as singular or 2+ plural. The verb construed with a noun often distinguishes singular, dual, or 3+ plural.

A noun must be accompanied by its termination except under the following conditions, when the termination must be omitted.

(1) If the noun is used as a proper noun, animate gender. Thus with terminations sing. *kŏă na*, plu. *kŏă nă maⁿ*, bear, a bear, the bear ; without terminations sing. *kŏă*, plu. *kŏă*, Old Bear, Bruin. With terminations sing. *p'â jâ na*, plu. *p'â jâ naⁿ*, beaver, a beaver,

the beaver; without terminations sing. *P'â jâ*, Beaver, name of a Taos Indian.

(2) If the noun is used as the not last member of a noun + noun compound. Thus uncompounded with terminations sing. *kŏă na*, plu. *kŏă nă ma*^{n}, bear; sing. *t'ăı na*, plu. *t'ăı nă ma*^{n}, clan. Compounded with termination of last member only, sing. *kŏă t'ăı na*, bear clan.

(3) If the noun is used as the not last member of a noun + verb compound; thus uncompounded with terminations, sing. *kŏă na 'â mu*^{n} *ja*, the bear me saw, plu. *kŏă nă m 'â mu*^{n} *ja*. Compounded with verb root as object without terminations, sing. *ti kŏă mu*^{n}, him I the bear saw, plu. *pi kŏă mu*^{n}, them I the bears saw.

(4) If the noun is so used that it require some postfix other than the terminations; thus with terminations, sing. *kŏă na*, plu. *kŏă nă ma*^{n}, bear; with postfix other than termination, sing. *kŏă hŭt ju*, plu. *kŏă hŭt ju*, like a bear; sing. *'a*^{n} *n kŏă wa 'i*, plu. *'a*^{n} *n kŏă wa 'i na*^{n}, my bear. In brief, terminations must be used except with animate proper nouns, nouns used as not last members of compounds, or nouns requiring some postfix other than the termination.

Although there are but few noun terminations, they present as much irregularity as do the gender-number-case endings of Indo-Germanic. As distinguished by termination nouns fall into seven classes:

1. Sing. *-na*, plu. *-nă*. Many nouns denoting inanimate objects or substances not made by man, especially such as consist noticeably of particles or parts, are included here. Three types of termination distinguished by the manner of postfixation are illustrated by the following nouns: (a) Sing. *-na*, plu. *-nă*. Thus sing. *hŭă na*, stone, plu. *hŭă nă*, stones. (b) The vowel in which the noun root ends is repeated plus sing. *-na*, plu. *-nă*. Thus sing. *p'â 'â na*, a particle, body, or stream of water, plu. *p'â 'â nă*, water. (c) Sing. *-(n)ă na*, plu. *-(n)ă nă*. Thus *p'a nă na*, a particle, flake ,or crystal of snow; plu. *p'a nă nă*, snow.

2. Sing. *-na*, plu. *-nă*. Nouns of this class signify inanimate objects or substances made by man or by some personified instrumentality. The terminations are the same as those of nouns of

class 1 and the same three types of postfixation are distinguished; but when a noun of this class is compounded or used without a termination or other postfix the indefinite pronoun element *na*ⁿ is prefixed. This same *na*ⁿ is prefixed to verbs; see page 34. Thus sing. *t'ö na*, house, plu. *t'ö nä*, houses; but without a postfix sing. and plu. *na*ⁿ *t'ö*, house, houses, as in *na*ⁿ *t'ö mu*ⁿ (he) saw houses.

3. Sing. *-na*, plu. *-na*ⁿ. This class includes many nouns designating animals and peoples. There are three types of postfixation as in classes 1 and 2. As an illustration, type (a) sing. *p'ą́ ją́ na*, beaver, plu. *p'ą́ ją́ na*ⁿ, beavers.

4. Sing. *-na*, plu. *-nä ma*ⁿ. In this class are found many nouns signifying human beings and animals, especially those indicating human social groups and animal genera. Three types are distinguished. (a) Sing. *-na*, plu. *-nä ma*ⁿ. Thus sing. *kŏą na*, bear, plu. *kŏą nä ma*ⁿ, bears. (b) The vowel in which the noun root ends is repeated plus sing. *-na*, plu. *-nä ma*ⁿ. Thus sing. *pŏ ö' na*, fish, plu. *pö 'ö nä ma*ⁿ, fish(es). (c) Sing. *-(n)äna*, plu. *-(n)änäma*ⁿ. Thus sing. *sŏą nä na*, man, plu. *sŏą nä nä ma*ⁿ, men.

5. Sing. *-nä m a*ⁿ, plu. *-na*. All that can be said of the nouns which belong here is that they are frequently used in the plural. What appears to be a plural termination is added to the singular; a singular termination is used in the plural. The verb adjusts itself to the termination, a plural verb accompanying the singular; a dual verb, the dual; a singular verb, the plural. Thus sing. *ɬąą nä ma*ⁿ, arrow, plu. *ɬąą na*, arrows.

6. Sing. *-nä ma*ⁿ, plu. *-nä*. The usage of these nouns is the same as in class 5. Nouns of this class are rare. Thus sing. *xą̂*ⁿ *nä ma*ⁿ, name; plu. *xą̂*ⁿ *nä*, names.

7. Nouns having one termination only are grouped here. They are collective in meaning. Thus *wö nä*, milk.

Some nouns have more than one plural. Thus 1 b, sing. *tö 'ö nä* spot, elk, leaf of book, book; 1st plu. *tö 'önä*, spots, leaves of books, books; 2nd plu. *tö 'ö nä ma*ⁿ, elks. It is explained that both elk and leaf of a book are called thus because spotted.

A noun which is the subject of a verb is never compounded with the verb. Such a noun has its termination except under conditions stated above.

A noun which is either the direct object or the referential object of the verb is regularly compounded with the verb. The noun root is then stripped of its affixes. Pronominal elements are prefixed to the compound to give partial expression of gender, number, and person, and to define the relation in which the noun stands to the verb. Thus: *ti kŏā mu*^{n}, him I bear saw; *pi kŏā mu*^{n}, them I bears saw. Both direct and referential objects may be compounded, the referential preceding the direct. Thus: *sŏā nā na 'â*^{n} *kāū p'â mīā hūā*, the man he-it-him ('*â*^{n}) the horse (*kāū*) water (*p'â*) gives (*wīā hūā*). See prefixed referential object pronouns, p. 34.

The singular direct object *must be compounded*. The plural direct object noun is usually compounded, but *may be given the form which it would have if it were the subject*, the pronoun elements which accompany the verb defining its case function.

Thus one is permitted to say either *pi kŏā mu*^{n}, them I bears saw; or *kŏā nā mu pi mu*^{n}, bears them I saw. The singular direct object permits only one form: *ti kŏā mu*^{n}, him I bear saw. The singular or plural referential object *may or may not be compounded*. Prefixed pronoun elements appearing early in the verb cluster govern and interpret these compounding processes.

Compounding of nouns with verbs, such as has been described, has often been termed incorporation. W. von Humboldt illustrates "incorporation" by the Nahua sentence: compounded or incorporated *ni nica qua*, I-meat-eat; uncompounded or non-incorporated *ni c qua in naca tl*, I-it-eat meat. Taos exactly parallels these Nahua constructions: compounded or incorporated, *'â tūā k'a la*^{n}, I-meat-ate; uncompounded or non-incorporated, *'â k'a lu tūā nä*, I-it-ate meat.[1] Incorporation is a very objectionable name for this process since it refers to noun + verb compounding only, and therefore requires us to resort to other terminology in naming other processes of compounding which are grammatically identical. Noun + verb compounding describes what actually occurs.

Simple and composite postfixes of locative, directional, or relational force are frequently appended to noun elements. A few of these may be used with verb elements also. Examples are:

[1] Fortunately for the sake of this comparison the Taos word meaning meat, *tūănă*, is commonly plural, the singular, *tūăna*, signifying a morsel of meat. Therefore both compounded and uncompounded object constructions could be employed, as stated above.

-t"a, in, at
-ta, down in, down at } used with sing.
-na, in
-wa", in, at, used with 2+ plu.
-bâ, up in, up at
-ga", down in, down at
-ptū, toward in horizontal direction
-pi ba", up toward
-pi ga", down toward
-pūā t"a, near
-pūā 'a ja", very near
-p"ī̆ā l ga", with, denoting accompaniment or association
-tŏ̄t bâ, at the side of
-xa" nä" t"a, at the end of
-pūā bâ, at the base of
-na" t"a, under
-na" ma, under
-wa na", on the side of, on the slope of
-k'i ta, on top of, on (contiguous)
-k'ŏ̄ā t"a, at the surface of } used with sing.
-k'ŏ̄a ta, down at the surface of
-k'ŏ̄ā 'a wa", at the surface of, used with 2+ plu.
-k'ŏ̄ā 'a ga", down at the surface of
-k'i nāī, above (not contiguous)
-t'u t t"a, outside of
-xŏ̄ li mi ma", around
-ptū wa", through
-p"a l ta, down inside of
-plā nāū, between, among
-plā n na, in between, in among
-plā n t"a, between, among
-ba, with, denoting instrumentality
-hūī ju, like

The etymology of *k'ŏ̄ā* is of interest. The postfixes containing *k'ŏ̄a* listed above mean at the surface of, at the top of. The primary meaning of *kŏ̄a* is neck. This usage reminds one of the African who says "house-belly" for in the house.

Rendering of English Adjectives

English adjectives are rendered in Taos either by nouns or verbs. Attributive and predicative constructions are not differentiated.

(1) The adjective may be regarded as a *noun* root of generalized meaning. It adds terminations and is compounded like a noun root. Thus 1a sing. *p'a xö na*, shell, plu. *p'a xö nä*, shells; 1a sing. *p'a t°ö na*, whiteness, plu. *p'a t°ö nä*, whitenesses. Compounded 1a sing. *p'a xö p'a t°ö na*, shell whiteness or white shell, plu. *p'a xö-p'a t°ö nä*, shell whitenesses or white shells.

One of these adjectival noun roots could well be called the Taos "diminutive." This is with termination 4b sing. *'u 'u na*, smallness, prettiness, dearness, oldness, small object, small one, etc., child, plu. *'u 'u nä ma*ⁿ. Compounded with the word for bear this gives with terminations 4b sing. *kŏä 'u 'u na*, bear smallness, small bear, plu. *kŏä 'u 'u nä ma*ⁿ, bear smallnesses, little bears. An example of noun + noun + verb compounding is: *ti kŏä 'u mu*ⁿ, I him bear smallness saw, I saw the little bear. This root *'u* is as common and varies as greatly in meaning as German *-chen*, *-lein*.

(2) The English adjective is expressed by various *verb* constructions. Beside regular verbs we find the following constructions performing this function: (a) Use of the postfixes *'i* or *wa 'i*, denoting possesion, with noun + verb compounds. Thus noun root *tö*, spot; verb root *k'u ju*, be pretty; compound with possession postfix *t ö k'u ju 'i*, (he) is pretty having spots, prettily spotted, beside the regular *tö k'u ju ma*ⁿ, (he) is pretty as regards spots. (b) Use of verb roots with prefixed possessive pronouns. Thus verb root *ma sö*, be glad; *'â n ma sö hŭă*, my present gladness or I am glad.

English adjective comparison is sometimes rendered by the free adverbs *łāⁿ*, very, more, most, or *ha la*, almost, less, least.

Numeral Expression

The numeral root is used now as a noun, now as a verb. The system is decimal. The numerals 2 and 4, 3 and 5, 8 and 9, appear respectively to be etymologically connected. The numeral 6 is said to mean piece, referring to one hand plus one piece or unit. The verb *ma*ⁿ *łi-* means to break or tear to pieces. The

Indians when counting usually begin again with 1 after ten units have been enumerated. There are, however, words for the tens up to and including one hundred. Numeral classifiers do not occur.

There are several series of numerals in constant use: (1) enumerative, used in counting; (2) responsive, used in answering; (3) adjectival, used with nouns, and having endings denoting animate or inanimate gender, and number; (4) substantival, used as nouns with endings denoting animate and inanimate gender and number; (5) ordinal, used to denote relative position or sequence; (6) multiplicative, used to designate the number of times; (7) fractional. Only two fractional numerals are in use; *piā nāi ti*, half, and *ha lapiā nāi ti*, any fraction smaller than a half. Some of the enumerative, ordinal, and multiplicative numerals are given below.

Enumerative.

One wä^{n} ma^{n}
Two wi 'i na^{n}
Three pa jūā
Four wīā na^{n}
Five p'a n jūā
Six ma^{n} ɬi
Seven t^{s}u
Eight x^{n}i li
Nine x^{n}ī^{n}ā^{n}
Ten tā^{n} ma^{n}
Eleven tā^{n} m wä^{n} ma^{n}
Twenty wi tā^{n}
Thirty pa jūā tā^{n}
One hundred tā^{n} tā^{n} or tā^{n} tā^{n} lā^{n}
One thousand tā^{n} tā^{n} tā^{n} or tā^{n} tā^{n} tā^{n} lā^{n}

Ordinal.

First t^{s}'u ba^{n}
Second jīā ba ta
Third pāū wa ta
Fourth wīā nā^{n} wi ta
Fifth p'a n jūā wi ta

Multiplicative.

Once wi ba
Twice wi ju
Three times pāū wi na^{n}
Four times wīā nā^{n} wi na^{n}
Five times p'a n jūā wi na^{n}

The Pronoun

There are numerous sets of pronouns. First, second, and third person is always distinguished; a few forms express near, less remote, and more remote third person. In some pronoun sets different forms occur for animate and inanimate gender. Number is either not recognized at all, or singular and 2+ plural or again singular,

dual, and 3+ plural is expressed. Subject, object, and referential cases and combinations of these cases find more or less complete expression. Inclusive and exclusive forms for the first person plural are not differently expressed.

Pronoun elements are used with nouns or with verbs.

The sets of pronouns fall into two groups, free and prefixed.

Free Pronouns

Free pronouns stand outside the noun or verb cluster, almost anywhere in the sentence. They are usually in apposition with nouns or prefixed pronouns. They may be used subjectively, objectively, and referentially, and may like nouns be provided with postfixes. They often lend a necessary definiteness to the meaning of the sentence.

(1) The free emphatic personal pronouns may always be omitted without changing the sentence meaning materially. They are common in answer to questions. Person only is distinguished. They are *na*ⁿ, I, me, we, us; *'ā*ⁿ, thou, thee, ye, you; *'a*ⁿ *wa na*ⁿ, he, him, she, her, it, they, them. When apposite with referential prefixed pronouns the forms *na*ⁿ *m ki*, *'ā*ⁿ *m ki* and *'a*ⁿ *wa na*ⁿ *m ki* may be used. Compare *ki*, postfix of purpose infinitives.

(2) The free demonstrative pronouns express three positions and two numbers. Some of them are: sing. *ju na*, plu. *ju nä ma*ⁿ, this; sing. *jä na*, plu. *jä nä ma*ⁿ, that (less remote); sing. *wâ ti*, plu. *wâ nä ma*ⁿ, that (more remote).

(3) Examples of free indefinite pronouns are *hi*, anything, something; sing. *jūā ti hi*, plu. *jūā nä m hi*, somebody.

(4) An illustration of a free interrogative not used except in questions is *p'u*ⁿ, who? All the other free pronouns, especially the indefinite, are also used interrogatively without change in form.

Adverbs and Conjunctions

Closely akin to the free pronouns but in many instances acting rather as pro-verbs and pro-clauses are numerous unattached words which we may call adverbs and conjunctions. These are difficult to analyze, but some are clearly free pronoun roots with affixes.

(1) Adverbs are: *hu*, thus; *hu ta*, in this manner (*ta* = in); *ju*, thus; *ja*, hither; *ju*ⁿ *ju*ⁿ, here; *jä*ⁿ *ju*ⁿ, there (less remote); *wâ ju*ⁿ, there (more remote); *hi 'a na*ⁿ, by doing something, how; *hi*, per-

haps (identical with the free indefinite pronoun *hi*). Adverbs like the free pronouns may be interrogative.

(2) Conjunctions are either free or must stand at the beginning or end of clauses.

Standing almost anywhere: *ha da*^{n}, soon, enough, already, and now, and then, and; *ha ba*, but, also, and; *xa*^{n}, then, when, whenever, since, because, therefore, you know.

Standing at the beginning of clauses and sentences: *'ąı tä na*^{n}, in that case; *'ąı xä*^{n} *na*^{n}, in case, if; *hu xa*^{n}, so then, accordingly.

Standing at the end of clauses and sentences: *jūä hūı wä na*^{n}, whenever, as often as; *ki n na*, as soon as; *k'ąı*, after; *xu hu* (*xa*^{n} + *hu*) then so, because; *nä̃ı ti*, since (temporal); *mä*^{n} *xa*^{n}, while; *mä*^{n} *na*^{n}, after.

Prefixed Pronouns

Pronouns of these series are placed before the root in noun and verb clusters, and in transposed rootless constructions directly before postfixes. They are indispensible to the cluster and with it form a sentence. The elements are slight and two or more are frequently so coalesced as to form a single syllable. Verb prefixed pronouns of definite meaning do not occur in the third person singular subject and object case. Thus *mä*^{n}, he, she, or it went; *mu*^{n}, he, she, or it saw him, her, or them. Elsewhere the pronoun must be formally expressed.

(1) Prefixed possessive pronouns are subjoined to noun and verb elements. Person and number are expressed. The noun termination may be replaced by postfixes denoting possession. Thus *ka na*, mother; *'â n ka na*, my mother; *'â n ka wa'i*, my (own) mother. If the possessive pronoun refers to the subject of the sentence we have the choice of two constructions: uncompounded or untransposed, *'â n pä*^{n} *wa'i ti mu*^{n}, my deer own him-I saw; compounded or transposed, *ti pä*^{n} *mu*^{n} *'â n wa'i*, him-I deer saw my own. These pronouns plus nouns may also translate English predicate construction. Thus *'â n ka na* or *'â n ka wa'i* may have the sense, she is my mother or who is my mother. Only a few verb roots prefix these pronouns. The ordinary verb postfixes are appended. Thus *ma sö* to be glad; *'â n ma sö hūä*, my present gladness or I am glad.

(2) Prefixed subject pronouns accompany conspicuously verbs denoting motion or position and the passive form of verbs. Thus *'â mãⁿ*, I went; *'â 'ãⁿ*, I sat. The pronouns are only eight in number, person and number being expressed: *'â*, I; *'aⁿ naⁿ*, we 2; *'i*, we 3; *'aⁿ*, you 1; *maⁿ naⁿ*, you 2; *maⁿ*, you 3; ——, he, she, or it; *'aⁿ naⁿ*, they 2; *'i*, they 3. The first and third persons dual and 3+ plural are the same.

(3) The prefixed third person subject pronoun indefinite is *naⁿ*. To illustrate: *na$_n$ t'ıã ja*, it is said, or they (indefinite) say; *naⁿ p'a-t'iⁿ 'aⁿpãã*, it or they fire flash happened, i. e. it lightened. The noun prefix *naⁿ* of class 2 is evidently identical.

(4) In the prefixed subject + object pronouns combinations of animate and inanimate gender; singular, dual, and plural number; subject and object case; and first, second, and third persons find somewhat incomplete and irregular expression. The subject and object do not refer to the same person or thing. Third person singular subject + third person singular object is not pronominally expressed; thus *muⁿ*, he, she, or it, saw him, her, or it. The pronoun elements are closely knit together, forming one or two syllables, subject element preceding object element. The number of combinations is perhaps more than fifty. Examples: *ti muⁿ*, him, her, or it I saw; *pi muⁿ*, them 2+ I saw.

(5) Prefixed reflexive-reciprocal subject + object pronouns are exemplified by: *taⁿ muⁿ*, I looked at myself; *'i ma muⁿ*, each of them 3+ looked at himself, or they 3+ looked at one another. In order to separate reflexive from reciprocal meanings a form of the free emphatic personal pronoun must be added. Thus *'aⁿ waⁿ n ta 'i ma muⁿ*, each of them 3+ looked at himself; *'aⁿ waⁿ n nâ 'i ma muⁿ*, they 3+ looked at one another.

(6) Prefixed referential object pronouns denote a relation between the subject, the verb, and some person or thing not the direct object. The direct object may or may not be expressed. The person or thing referred to may be expressed by an appositive noun or free pronoun outside the cluster. The reference is vague and English translations for each form are therefore numerous. Gender, number, and person are partially distinguished as in (4) and (5). The number of combinations is great. Thus *maⁿ m pãⁿ muⁿ*, you 1

him with reference to me deer saw, you I saw my deer, you I saw the deer by me, you I saw the deer of which I spoke, you I saw the deer which I shot, you I saw a deer for me, you I saw a deer with me, you I saw a deer before I did, you I saw a deer instead of my seeing a deer, etc. Third person singular subject, and third person singular subject + third person singular object, are suppressed as in prefixed pronoun sets (2) and (4). Thus *sŏă nă na 'â^{n} kăn p'ă wiă hŭă*, the man (he it) with reference to him horse water gives; *sŏă nă na 'â^{n} kăn p'â hăi hŭă*, the man (he it) with reference to him horse water takes away.

TU^{n}'U^{n} NA, THE VERB ROOT

The Verb

The morphology of the verb resembles that of the noun. Polysyllabic roots can perhaps be analyzed into simpler elements. Gender, number, case, person, tense, aspect, mood, voice, position, direction, limit, cause, result, etc., may be formally expressed in the verb cluster. The various sets of pronouns prefixed to verb roots have been mentioned above.

Tense, mood, and the like, are either not formally expressed, or are brought out by affixes, by the employment of two verb clusters, or by verb + verb compounding.

Tense is indicated largely by prefixes. Negative forms differ from the corresponding positive forms by having different tense postfixes and also by prefixing a negative element — a double negative construction such as is used in many languages. Some roots require one suffix to express a certain tense, other roots a different suffix. Tenses commonly heard are illustrated by the following forms of the verb *mu^{n}*, see.

Tense	Positive	Negative
Aorist	*mu^{n}*, saw	*wa mu^{n} mi*, did not see
Progressive present or imperfect	*mu^{n} hŭă*, is or was seeing	*wa mu^{n} măă*, is not or was not seeing
Immediate future	*mu^{n} hăă*, is about to see	
Indefinite future	*mu^{n} ja*, will see	*wa mu^{n} pu^{n}*, will not see
Definite future	*su mu^{n} ja*, will see	*su wa mu^{n} pu^{n}*, will not see
Unreal	*mu^{n} ja 'a^{n} na^{n}*, might have seen	
Ideal	*mu^{n} mi na^{n}*, may see	

The forms given above are in the third person singular. Prefixed pronouns, if required, are placed before these forms. In the negative the *wa* may even be omitted; compare French negation with *pas*. Other tense postfixes are progressive positive *ma*^{n}, *hă*^{n}, negative *mi*^{n}. *Ma*^{n} denotes permanent state or continuous activity and is employed as tense-postfix with verbs of static meaning. *Ma*^{n} is also one of the formatives of derivative verbs; see below.

f In some of these postfixes an original positional or directional orce is probably still felt. The progressive tense of *mă*^{n}, go, is *mă*^{n} *hūă*, is going (in a direction away from the speaker). The progressive tense of *'ă*^{n}, come, is *'ă*^{n} *hă*^{n}, is coming (in a direction towards the speaker). The forms *mă*^{n} *hă*^{n} and *'ă*^{n} *hūă* do not exist. To most verb roots, however, both *hūă* and *hă*^{n} may be appended, *hūă* suggesting going, progression, duration of activity, while *hă*^{n} denotes coming, immediate futurity. The future and passive *-ja* calls to mind the adverb *ja*, hither; compare *hă*^{n}. The negative progressive *-mă*^{n} seems to be the same as the verb *mă*^{n}, go; compare *hūă*.

Customary and frequentative aspect is expressed by prefixing *wi*^{n}, which precedes all other elements in the verb cluster except the prefixed pronoun: thus *wi*^{n} *mu*^{n} *hūă*, used to see, saw again and again.

The majority of sentences are indicative statements and have no formal expression of mood.

When a statement is made according to tradition, report, or other authority outside the speaker the narratival *wi* is prefixed, occupying the same position as *wi*^{n}, which it precedes if both are used. Thus *wi mu*^{n}, saw, it is related.

Quotation, either direct or with shifting of person (indirect) is expressed by the free quotative *mu*^{n}, which appears after, rarely in, the quotation. Thus *mu*^{n} *mu*^{n}, (he) saw (him), (he) said.

There is no imperative. Commands are indicated by tone of voice. The tense is usually future; *wa* of the negative is regularly omitted; *xa*^{n}, then, often follows the verb. Thus, *a*^{n} *mu*^{n} *ja xa*^{n}, you I see then!

Ta^{n} is a hortatory element which precedes first person verbs in exhortations. The future and the negative without *wa* occur as in commands. Thus *ta*^{n} *'i mu ja*, let us see.

The question requires formal indication unless it contains some interrogative pronoun or adverb. Both positive and negative direct questions are introduced by *xa*^{n} or *pa*, *xa*^{n} being the more common. If quoted the quotative follows. Thus *xu su wa mu*^{n} *pu*^{n} *mu*^{n}, will (he) not see, (he) asked. The indirect question requires two verb clusters; see below.

The following clusters may be used only in conjunction with complementary clusters. They may be called infinitive forms.

(1) Real infinitives end in *ja'i*. Negation must be expressed by the complementary verb. Thus *'â mãũ hũã ti mu*^{n} *ja'i*, I want to see him.

(2) Indirect question infinitives positive end in *ja'i*; negative end in *mi*^{n}*'i*. They must be preceded by *t'a*. Thus *mãĩ t'ĩã'a*^{n} *t'a mu*^{n} *ja'i*, you 1 me asked whether (he) saw (him).

(3) Unreal infinitives end in *ja pũã'i*. Negation must be expressed by the complementary verb. Thus *na*^{n} *t'a'a'a*^{n} *n'i mu*^{n} *ja pũã'i*, it is a possibility that you 2 could have seen them 3+.

(4) Purpose infinitives end in *ja ki*. Negative must be expressed by the complementary verb.

Compare *ki*, postfix of free emphatic personal pronouns. Thus *'â mã*^{n} *hũã pi mu*^{n} *ja ki*, I am going in order to see them 2+.

Verb + verb compounding also assists in the expression of tense and mood; see below.

What we term the Tiwa passive is a device for emphasizing the subject. The subject, definite or indefinite, must be in the third person, and finds no prefixed pronominal expression. The noun subject may or may not be expressed and if expressed may or may not be compounded. The object, alias subject, must be expressed by a prefixed subject pronoun. The noun object if present may not be compounded, but stands outside the verb cluster and has its proper termination like a true subject. The object may stand in the first, second, or third person. The various verbs form the passive by postfixing between root and tense postfix if present the various elements *ja*, *ka*, *ta*, *la*, *ma*, each verb employing only one of these elements. Examples of the passive construction are: With definite or indefinite subject unexpressed and object expressed by second person singular prefixed subject pronoun, *'a*^{n} *mu*^{n} *ja*, you 1

were seen by him, her, it, them, somebody, or something. With definite subject expressed by compounded noun and object expressed by second person singular prefixed subject pronoun, *'aⁿ kŏā muⁿ ja*, you 1 were seen by a bear. With definite subject expressed by uncompounded noun and object expressed by second person singular prefixed subject pronoun, *'aⁿ muⁿ ja kŏā na*, you 1 were seen by a bear. With definite subject expressed by compounded noun and object expressed by second person singular prefixed subject pronoun and by uncompounded noun, *sŏā nä na 'aⁿ kŏā muⁿ ja*, you 1, a man, were seen by a bear. With definite subject expressed by uncompounded noun and object expressed by second person singular prefixed subject pronoun and by uncompounded noun, *sŏā nä na 'aⁿ muⁿ ja kŏā na*, you 1, a man, were seen by a bear.

Verb + verb compounds in which the second element is the root *pūā*, happen, become, also correspond to English passives; see below.

Simple and composite postfixes describe position, direction, limit, cause, result and other adverbial notions with an exactness totally foreign to English expression. These postfixes are comparable to and in some instances identical with postfixes accompanying noun roots. Examples are: *pi gaⁿ*, towards in a downward direction away from the speaker; *-nāⁿ na*, down there within a hollow object; *-xāⁿ naⁿ*, in an upward direction away from the speaker as far as.

Tiwa expresses a large percentage of verbal conceptions by verb + verb compounds. The meaning of the compound is usually distinct and the compound is felt as a simple verb as a result of long usage. Two, three, or even four verb roots may be compounded. The last member frequently denotes the chief or causal activity, yet in some compounds it assumes an almost affixal function. To this last member the first or earlier members may stand in most diverse relation. Not infrequently they express attendant, purpose, or result activity. Frequent as last members are the motion verbs *mäⁿ*, go, *'äⁿ*, come; the position verbs *k'a*, lie; *'äⁿ*, sit, *kᵉi* stand, *jiā*, move about in or at a place; and the verb *pūā*, happen, become. Examples are: *tŏā*, he separated, pulled off, picked up + *mäⁿ*, he went = *tŏā mäⁿ*, he fetched; *t'ŏā laⁿ*, he shook his arms or flapped his

wings + *mä*^{n}, he went = *t*^{e}*ŏa l mä*^{n}, he flew ; *'u*^{n}, he said + *mä*, he went = *'u*^{n} *mä*^{n}, "he up and said;" *xu ma*^{n}, he was taken care of + *pūa*, he became = *x u m pūa*, he became taken care of; *x*^{e}*ıā li*, hook with horns + *'â wi ta*, I was tossed = *'â x*^{e}*ıā li wi ta*, I was hooked and tossed.

What may be termed derivative verbs are formed by adding to verb roots certain elements which fundamentally modify the root meaning, the combination behaving as a verb + verb compound. The relation of the derivative verb to the verb + verb compound, is perhaps analogous to that which the noun + noun compound, the last member of which is of adjectival force, bears to the noun componund. Thus *mu*^{n}, see, may not only be connected with exceedingly numerous pronoun elements, tense, mood, and voice elements, positional, directional, limital, causal, and resultal elements and combinations of such elements, but may originate a number of verbs of derivative meaning each one of which permits as many forms as does the simple root *mu*^{n}. Thus *mu*^{n} *ma*^{n}, seem; *mu*^{n}*wä*^{n} show. The derivative verb may act as a member of verb + verb compounds. Thus *xu*, care for; derivative verb *xu ma*^{n}, be taken care of; *pūa*, become; *xu m pūa*, (he) became taken care of. *Ma*^{n} of derivative verbs is probably the same as the tense postfix *ma*^{n}, denoting permanent state or continuous activity. Unanalyzed verb roots of two or more syllables may prove to be derivative or compounded verbs.

The Interjection

Taos speech is rich in a class of verb roots which express assent, negation, various states of emotion, volition, and the like. These differ from other verb roots in that they take no affixes, but in their affixless form have the same syntactic usage as verb clusters. Thus *ha*^{n} *mu*^{n} *xa*^{n}, yes quotative then, means she said that she was willing to do so. Examples are:

ha^{n}, yes, all right, also said by a listener during a narration to show interest.

na 'a, no

'a, expression of surprise

'a^{n}, expression of pain

'a^{n} *n ta*, expression of admiration

'u xa^{n}, expression of scorn or ridicule,
t'a 'a expression of gratitude
wâ da^{n}, be gone far from here!
sāū, or *si 'i*, expression of desire for attention.

Greeting, Swearing, Men's and Women's Language

The common greeting is *jāū*, said on all occasions. *Jāū* may be translated by hello, how do you do, good bye. The following forms are also much used: sing. *'a*^{n} *k'u wa ma*^{n}, dual *ma*^{n} *n k'u wa ma*^{n}, 3+ plu. *ma*^{n} *k'u wa ma*^{n}, you live well, progressive tense of *k'u*, thrive, + *wa*, be alive, live. The reply is the same, always using of course the proper number. Good bye may be rendered by *k'u ka-ma*^{n}, which seems also to contain the element *k'u*. *Pūī 'u*, "friend," is a much employed salutation.

The nearest approach to our swearing is such an expression as *na*^{n} *wâ xa n nă nā*, disgust, or *ta 'a łu łi*, thou male ancestor.

A difference between men's and women's language is noted in the expression: What do you want? Men say *hāī?* Women say *hi 'i?*

TEXT

An incompletely analyzed portion of an animal story with interlinear translation and vocabulary follows. The alphabetic order of the vocabulary is: ', 'a, 'a^{n}, 'ā, 'ā^{n}, 'â, 'â^{n}, b, d, g, h, 'i, 'i^{n}, j, k, k', k^{o}, k^{u}, l, ł, m, n, 'ō, p, p', p^{o}, s, t, t', t^{o}, t^{o}', t^{o}', u, 'u^{n}, w, x, x^{u}.

Ka l łīū 'u ha t Pā^{n} łīū 'u
Old She-Wolf and Old She-Deer

'A^{n} n na^{n} t^{o}'īā ja wa 'i
with Reference to Them 2 It Is Told

Xa^{n}	mā^{n} n	ka l łīū 'u	wi t^{o}ō m	'a^{n} m 'u p^{o}īā l ga^{n}
Then	in earlier time	Old She-Wolf	she narratival lived	her 2+ little ones with

ha ba	pā^{n} łīū 'u	wi t^{o}ō m	'a^{n} m 'u p^{o}īā l ga^{n}.	Hu	xu
and	Old She-Deer	she narratival lived	her 2+ little ones with.	So	then

mā^{n}	ka l łīū 'u	wi wa n hūă	pā^{n} łīū 'u na
after a while	Old She-Wolf	she narratival approached	the old she-deer

t^{o}ō n t^{o}a.	Hu	xu :	hi	'a^{n} t'a hūă	mu^{n}	xa^{n}
she lived where.	So	then :	"What	you 1 are doing?"	quotative	then

wi 'u^{n} ma.
she (the wolf) narratival said to her (the deer).

Hi 'â wa t'a mãⁿ. Ja du 'â tᵊõ m 'â naⁿ m 'u pᵊĭă l gaⁿ.
"Anything I am not doing. Here I live my 2+ little ones with."

Taⁿ tᵊ'ŭă ha muⁿ 'i tᵊõ ja muⁿ xaⁿ ka l ĭĭŭ 'u
Hortatory together quotative they 3+ live shall quotative then Old She-Wolf

wi tuⁿ hŭă. Haⁿ muⁿ xaⁿ. Hu xu tᵊõ ji
she narratival said. Yes quotative then. So then day every

'aⁿ n ni ła tᵊõ̆ă mãⁿ hŭá. Hu xu
they 2 quotative wood pull off or pick up went. So then

'aⁿ n ła tᵊõ̆ă mãⁿ naⁿ 'u ha la
they 2 wood pull off or pick up went when, almost

wi xŭă ka hŭă.
she (the wolf) narratival was biting her (the deer).[1]

Hu xu pãⁿ ĭĭŭ 'u na hu 'i wi 'u 'uⁿ mãⁿ hŭă :
So then the old she-deer thus them 2+ she narratival little ones tell went :

Ju hi ka l ĭĭŭ 'u ha t 'â wi hu ta hãⁿ.
"Perhaps (by) Old-She-Wolf very soon I narratival killed be shall soon.

Hu xu 'ăĭ xãⁿ n hi ja 'u maⁿnaⁿ m tŭă kaⁿ laⁿ
So then in case perhaps hither them 2+ inanimate she for you 2+ pieces of meat brings

n, maⁿ n xa k'ŭĭ k tᵊi ĭi ĭi m lŏ ja mãⁿ, 'ăĭ tãⁿ n
when, you 2 roast put when it in a state of making a s-s-s sound sizzle goes, in that case

xu maⁿ n na k'a l puⁿ. Ha ba 'aⁿ m 'u wa 'i n
then you 2 not eat shall. And (by) her 2+ little ones

hi 'a n k maⁿ n tŏ k'u ju 'i
by (having done) what then you 2 2+ spots are pretty having

maⁿ n tᵊ'ĭă 'aⁿ la n, kaⁿ n ka na 'aⁿ n kŏ̆ă kʷi l ta ka xu
you 2 asked are when, '(By) our 2 mother we 2 (in) smoke shut down in were because

hu 'aⁿ n tŏ k'u ju maⁿ muⁿ maⁿ pãⁿ n 'uⁿ mãⁿ ja.
thus we 2 (as regards) 2+ spots pretty are permanently,' quotative you 2 them 2+ say go shall.

Hu xu 'aⁿ waⁿ n hu ta 'i mãŭ xu maⁿ pãⁿ n kʷi l ta ja.
So then they in the same manner they 3+ wish then you 2 them 3+ shut down in will.

Hu 'a n mãⁿ nu maⁿ n xʷĭă p mãⁿ ja wâ k ta 'a ła ĭi n[2]
So (doing) after you 2 run go shall to that far place down the male ancestors

'i 'ãⁿ na gaⁿ. Hu xu maⁿ n su xu m pŭă ja.
they 3+ sit or stay in where down where. So then you 2 will cared for become will"

[1] In play.

[2] It is believed that the ancestors and unborn progeny of deer are kept underground in a lake or kiva situated far northwest of Taos whence they are occasionally driven forth for the benefit of the Indians.

Vocabulary

'a, in ta 'a lu li, male ancestor.

'a, in hi 'a na^n, having done something, and hu 'a na^n, so doing.

'ăi, in 'ăi tă^n na^n, in that case, 'ăi xă^n na^n, in case.

'ăi tă^n n, see 'ăi tă^n na^n

'ăi tă^n na^n, conjunction, in that case.

'ăi xă^n n, see 'ăi xă^n na^n.

' ăi xă^n na^n conjunction, in case.

'a^n, first and third person dual pronoun element in 'a^n na^n, we 2, they 2.

'a^n, second person sing. prefixed subject pronoun, you 1.

'a^n, third person pronoun element in 'a^n ma^n, his, her, or its, 2+ animate, and 'a^n wa^n na^n, he, she, it, they.

'a^n, in t^n'ĭă 'a^n, ask.

'a^n m, see 'a^n ma^n.

'a^n ma^n, third person sing. 2+ animate prefixed possessive pronoun, his, her, or its, 2+ animate.

'a^n n, see 'a^n na^n

'a^n na^n, first and third person dual prefixed subject pronoun, we 2, they 2.

'a^n wa^n n, see 'a^n wa^n na^n.

'a^n wa^n na^n, third person sing., dual, and plu. free emphatic personal pronoun, he, she, it, they.

'ă^n, verb, sit, stay, be.

'â, first person sing. prefixed subject pronoun, I.

'â, first person sing. pronoun element in 'â na^n ma^n, my 2+ animate.

'â na^n m, see, 'â na^n ma^n.

'â na^n ma^n, first person singular 2+ animate prefixed possessive pronoun, my 2+ animate.

'i, first and third person 3+ plural prefixed subject pronoun, we 3+, they 3+.

'i, prefixed subject + object pronoun, he, she, or it, them 2+.

'i, postfix denoting possession or inherent quality, in ma^n n tö k'u ju'i, you 2 2+ spots are pretty having; often preceded by wa, as in 'a^n m 'u wa 'i na^n, her (own) 2+ little ones.

'u, noun, smallness, little one, little thing; compounded it acts as a "diminutive" expressing smallness, prettiness, dearness, oldness. With terminations 4 b, sing. 'u 'u na, plu. 'u 'u nă ma^n.

'u, third person 2+ plu. inanimate pronoun element in the referential pronoun 'u ma^n na^n ma^n, them 2+ inapimate he, she, or it, for you 2.

'u, in na^{n} 'u, when.

'u ma^{n} na^{n} m, see 'u ma^{n} na^{n} ma^{n}.

'u ma^{n} na^{n} ma^{n}, composite referential pronoun, then 2+ inanimate he, she, or it, for you 2.

'u^{n}, verb, say, tell.

ba, in ha ba, but.

ba^{n}, in x^{w}ĭă ba^{n}, run.

da^{n}, in ha da^{n}, enough, and ja da^{n}, here.

ga^{n}, directional and positional postfix, down (to) where.

ga^{n}, apparently without the meaning "down" in p^{e}ĭă l ga^{n}, with.

ha, in ha ba, but, ha da^{n}, enough, and ha la, almost.

ha, in t^{e}'ŭă ha, together.

ha ba, conjunction, but, also, and.

ha da^{n}, adverb and conjunction, enough, already, soon, and now, and then, and also, and.

ha la, adverb, almost, less, least.

ha t, see ha da^{n}.

ha^{n}, interjection, yes.

hă^{n}, tense postfix denoting immediate futurity.

hi, free indefinite pronoun, anything, something, what, perhaps. It also occurs in hi a na^{n}, by having done what, and ju hi, maybe.

hi 'a n, see hi 'a na^{n}.

hi 'a na^{n}, free indefinite pronoun, by having done something, by having done what, why, how.

hu, adverb, thus, so, and so.

hu, verb, kill.

hu 'a n, see hu 'a na^{n}.

hu 'a na^{n}, adverb, so doing.

hŭă, tense suffix denoting progressive or continued activity; the corresponding negative postfix is mă^{n}.

hu ta, adverb, in the same manner (hu, thus + ta, down in).

ja, adverb, hither; also in ja da^{n}, here.

ja, a future, imperative and, passive verb postfix.

ja, in lŏ ja, make a sizzling sound.

ja da^{n}, adverb, here.

ja du, see ja da^{n}.

ji, distributive postfix meaning every, as in t^{e}ŏ ji, every day.

ju, adverb, thus, in ju hi, perhaps.

ju, in k'u ju, be pretty.

ju hi, adverb, perhaps (ju, thus + hi, something, perhaps).

k, see ga^{n} and xa^{n}.

ka, in ka la^{n}, wolf.

ka, noun, mother; with terminations 4 a, sing. ka na, plu. ka nā ma^{n};

ka, a passive verb postfix.

ka, in xŭă ka, bite.

ka la^{n}, noun, wolf; with terminations 4 c, sing. ka l ā na, plu. ka l ā nā ma^{n}.

ka l ĭŭ 'u, noun compound, little, pretty, nice or old wolf female; used as a proper name, hence without termination.

ka^{n}, first person dual pronoun element in ka^{n} na^{n}, of us 2.

ka^{n}, in ka^{n} la^{n}, bring.

ka^{n} la^{n}, verb, bring.

ka^{n} n, see ka^{n} na^{n}.

ka^{n} na^{n}, first person dual sing. animate prefixed possessive pronoun, of us 2.

kŏă, noun, smoke; with terminations 1 b, sing. kŏă 'a na, particle or portion of smoke, plu. kŏă 'a nā, smoke.

k'a, in k'a la^{n}, eat.

k'a la^{n}, verb, eat.

k'u, in k'u ju, be pretty.

k'ŭĭ, verb, place, put.

k'u ju, verb, be pretty.

k^{n}i, in ki la^{n}, shut up.

k^{n}i l, see k^{n}i la^{n}.

k^{n}i la^{n}, verb, shut up, enclose.

l, see la^{n}.

la, in ha la, almost.

la, a passive verb postfix.

la^{n}, in ka la^{n}, wolf.

la^{n}, in p^{n}ĭā l ga^{n}, with.

la^{n}, the second syllable of several verb roots.

ła, noun, wood; with terminations 1 a, sing. ła na, a piece of wood, plu. ła nā, wood.

łi, in ta 'a łu łi, male ancestor.

łi, in t^{n}i łi łi, make a s-s-s sound.

łĭŭ, noun, female, woman, wife; with terminations 3 b, sing. łĭŭ 'u na, plu. łĭŭ 'u na^{n}.

łō, in łō ja.

łō ja, verb, make a sizzling sound, sizzle, boil.

łu, in ta 'a łu łi, male ancestor.

m, see ma^n.

ma, an aorist tense postfix.

măŭ, verb, wish, want, love.

ma^n, second person dual pronoun element in ma^n na^n, you 2, ma^n pä^n na^n, you 2 them 3+, 'u *ma*^{n} na^n ma^n, them 2+ inanimate he, she, or it, for you 2.

ma^n, perhaps of plural force in 'â n^{n}ma, my 2 + animate, 'a^n ma^n, her 2+ animate, 'u ma^n na^n *ma*^{n}, them 2+ inanimate he, she, or it, for you 2.

ma^n, a verb postfix denoting permanence of state or continuity of activity; it also forms derivative verbs, as mu^n, see, mu^n ma^n, be seen, appear, seem; xu, care for, xu ma^n, be taken care of.

ma^n n, see ma^n na^n.

ma^n na^n, second person dual prefixed subject pronoun, you 2.

ma^n pä^n n, see ma^n pä^n na^n.

ma^n pä^n na^n, prefixed subject + object pronoun, you 2 them 2.

mä^n, verb, go; often used with almost formative force.

mä^n, tense postfix denoting progressive or continued activity used with the negative; the corresponding positive postfix is hûă; perhaps identical in origin with mä^n, go.

mä^n, in mä^n na^n, earlier, later.

mä^n n, see mä^n na^n.

mä^n na^n, adverb, denotes difference in time, earlier, later, before, after, ago, from now, a little while ago, after a while.

mä^n nu^n, see mä^n nä^n.

mu^n, adverb, quotative element following direct and indirect quotations; it serves the same purpose as English quotation marks or "said he."

n, see na^n.

n, by progressive assimilation for m in t'õ n t'a; see m.

na, noun termination in 4 a, sing. ka na, mother, and 4 b, sing. pä^n łĭû 'u na, old she-wolf.

na, locative postfix used with sing. nouns and with verbs, in, in there, in where.

na, by retrogressive assimilation for wa in ma^n n na ka l pu^n, you 2 not eat shall.

na ga^n, composite locative postfix used with nouns or verbs, in + down, down in there, down in where (na, in + ga^n, down).

na^n, noun termination in 3 a, plu. ta 'alu łi na^n, male ancestors; also used as noun plural sign with possessive pre- and postfixes in 'a^n m 'u wa 'i na^n, her 2+ little ones.

na^n, prefixed third person subject pronoun indefinite, it, they (indefinite), as in na^n t'^{e}ĭă ja, it is said, or they (indefinite) say.

na^n, in the pronouns 'a^n wa^n na^n, he, she, it, they, ka^n na^n, of us 2 sing., ma^n na^n, you 2, ma^n pă^n na^n, you 2 them 2 animate, 'u ma^n na^n ma^n, them 2+ inanimate he, she, or it, for you 2.

na^n, adverb or conjunction, then, when; also in na^n 'u, when, 'ăi tă^n na^n, in that case, 'ăi xă^n na^n, in case, hi 'a na^n, by having done something then, hu 'a na^n, so doing then, and mä^n na^n, earlier, later.

na^n, in wa na^n, approach.

na^n 'u, adverb or conjunction, when.

ni, by retrogressive assimilation for wi in 'a^n n ni ɬa t^{e}ŏă mă^n hŭă, they 2 quotative wood pull off or pick up went.

nu, see na^n.

p, see ba^n.

pä^n, noun, deer; with terminations 4 a, sing. pä^n na, plu. pä^n nă ma^n.

pä^n, third person 2+ plu. pronoun element in ma^n pä^n na^n, you 2 them 2 animate.

pä^n ɬĭŭ 'u, noun compound, little, pretty, nice, or old wolf female; used as a proper name, hence without termination; with terminations 4 b, sing. pä^n ɬĭŭ 'u'u na, plu. pä^n ɬĭŭ 'u 'u nă ma^n.

pŭă, verb, happen, become.

pu^n, future and imperative verb postfix used with the negative; the corresponding postive postfix is ja.

p^{e}ĭă, in p^{e}ĭă l ga^n.

p^{e}ĭă l ga^n, noun postfix denoting association or accompaniment, with.

su, tense prefix denoting definite future time, placed after the prefixed pronoun and narratival element.

t, see da^n.

ta, in ta 'a ɬu ɬi, male ancestor.

ta, locative postfix used with sing. nouns and with verbs, down in, down at; it occurs in hu ta, in the same manner, and 'a^n n kŏă k^{u}i l ta ka we 2 (in) smoke shut down in were.

ta, a passive verb postfix.

ta 'a ɬu ɬi, noun, father's or mother's father or more remote male ancestor; with terminations 3b, sing. ta 'a ɬu ɬi 'i na, 3a, plu. ta 'a ɬu ɬi na^n.

ta^n, hortatory modal element preceding the future of verbs.

tă^n, in 'ăi tă^n na^n, in that case.

tŏ, noun, spot; with terminations 1 b, sing. tŏ 'ŏ na, plu. tŏ 'ŏ nă.

tŭă, noun, meat; with terminations 1 a, sing. tŭă na, morsel of meat, plu. tŭă nă, meat.

tu^{n}, verb, say.

t'a, verb, do.

t^{e}a, locative postfix used with sing. nouns and with verbs, in, at, there, where.

t^{e}ō, noun, day; with terminations 1 a, sing. t^{e}ō na, plu. t^{e}ō nā.

t^{e}ō, verb, live in a house, dwell, live; compare na^{n} t^{e}ō, house.

t^{e}ō̆ă, verb, separate, pull off, pick up.

t^{e}ō ji, noun with distributive postfix, every day.

t^{e}i, in t^{e}i li li, make a s-s-s sound, dissimilated from the two following syllables.

t^{e}i li li, verb, make a s-s-s sound (onomatope).

t^{e}i li li ma^{n}, derivative verb, be in a state of making a s-s-s sound, sizzle.

t$^{e'}$iă, verb, say, tell.

t$^{e'}$iă, 'a^{n}, verb, ask.

t$^{e'}$ûă, in t$^{e'}$ûă ha, together.

t$^{e'}$ûă ha, adverb, together.

wa, noun postfix denoting posssession.

wa, verb prefix denoting negation placed before the root and after the prefixed pronoun and tense prefix, and requiring peculiar tense postfixes.

wa, in wa na^{n}, approach.

wa n, see wa na^{n}.

wa na^{n}, verb, approach.

wa^{n}, in a^{n} wa^{n} na^{n}, he, she, it, they.

wâ, free demonstrative pronoun element denoting greater remoteness.

wâ ga^{n}, adverb, to that far place down.

wâ k, see wâ ga^{n}.

wi, narratival modal element indicating that the statement does not originate with the speaker, placed before the root and the negative and tense prefix and after the prefixed pronoun.

xa, verb, roast.

xa^{n}, adverb and conjunction then, when, whenever, since, because, therefore, you know.

xā^{n}, in 'âĭ xā^{n} na^{n}, in case.

xu, see xa^{n}.

xu, verb, care for.

xûă, in xûă ka, bite.

xûă ka, verb, bite.

xu ma^{n}, derivative verb, be taken care of.

$x^{u}iă$, in $x^{u}iă\ ba^{n}$, run.
$x^{u}iă\ ba^{n}$, verb, run.
$x^{u}iă$ p, see $x^{u}iă\ ba^{n}$.

SUMMARY

Tiwa is a moderately polysynthetic language of the same general type as Ute or Nahua. Salient features are: phonetic system characterized by clear and not violent sounds with absence of not etymologically synthetic consonant groups; preponderance of one syllabled root and affix elements; notable lack of the processes of internal change in elements and unimportance of reduplication; denoting of root modification both by prefixation and postfixation, the latter process perhaps predominating; remarkable development of root compounding, the compound forming with its affixes a single cluster; abundant formal expression of position, direction, and relation, but suppression of shape, quantity, and quality notions; incomplete and imperfect expression of animate and inanimate gender, of singular, dual and plural number, of subjective, objective, and referential case accomplished chiefly by pronouns and never by case-affixes, of first, second, and third person, and of a great variety of tense and mood ideas; persistent emphasis of the object by means of compounding or passive construction; and elaborate development of syntax by means of conjunctive elements. Affinities of Tanoan with Nahuatlan, Kiowan, and Keresan will be discussed in a preliminary way in a separate paper.

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"CALF MOUNTAIN" MOUND IN MANITOBA

By HENRY MONTGOMERY

IN September last (1909) I excavated an ancient artificial mound, which for many years has been known to the residents of Southern Manitoba as "Calf Mountain" (fig. 5). This mound is situated on a natural ridge in Manitou County. It is nearly circular, is about eighty feet in diameter and ten feet in height. Openings

FIG. 5.—Calf Mountain Mound on Mr. E. H. Stevens' Farm, Darlingford, Manitoba. Excavated by Henry Montgomery in September, 1909.

had been made in it by other persons some years ago; but these had been filled in such a manner that very little damage had been done in respect to the preservation of the remaining contents of the mound. During my investigations thirty days' labor in digging were expended upon this mound. My excavations brought to light nine burial places within a circular area of about thirty-five feet in diameter, and under conditions which point to the mound's having been built in portions at different times. These conditions

are, firstly, the difference in the state of preservation of the remains in the various burial places, and, secondly, the presence of many layers of limy matter at different levels and having different inclinations or curvatures.

It is my purpose here to give a brief description of the interior of the mound, or that portion of it which had not been previously described. In each instance the strata and interred objects are mentioned in order as they were found by digging from the surface vertically downwards.

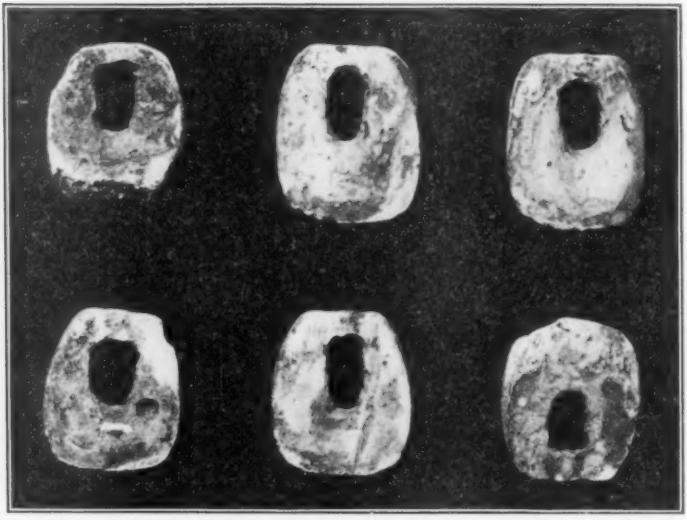

FIG. 6. — Shell ornaments, natural size. Made from marine shells.

Burial No. 1 : At the surface a tough sod and black soil were met; about a foot and a half deep was found a calcareous layer from 4 to 6 inches thick; below this was soil; then a calcareous layer; after which came more black soil in which a bone bead occurred; then at a depth of eight feet below the surface there were six buffalo skulls in a heap together; and under these skulls were fourteen large stones. Under these stones were three human skeletons and a roll of birch bark, all being much decomposed.

Burial No. 2: As before, black soil occurred; then a calcareous layer; then black soil; then at a depth of seven feet another calcareous layer of six to eight inches in thickness was found; then more black soil; and at a depth of eight and a half feet below the surface there were six buffalo skulls found together; and beneath these skulls were nine stones, which rested upon one human skeleton, badly decomposed, broken and crushed, along with many flat, oblong shell pendants, all greatly decomposed.

FIG. 7. — Beads of marine shell, *Marginella apicina*.

Burial No. 3: Black soil at the top; then a calcareous layer; then black soil; then four buffalo skulls; under which were twelve large stones; and under these were three human skeletons along with twelve flat, elliptical shell beads about an inch in length and having a rectangular opening, all these being greatly decomposed; there were two circular shell beads and three marine shell beads (*Marginella apicina*) not so much decomposed (see figs. 6 and 7). Below the skeletons and beads was black soil in which another calcareous layer occurred for a short distance.

Burial No. 4: Black soil; a calcareous layer from eight to ten inches thick; four buffalo skulls were found about two and a half feet below the surface; then eight stones, and under the stones were the following: five human skeletons; four copper beads (now copper carbonate), the copper sheet having been rolled around a string or cord of tanned deer hide, and the copper salts having stained many of the human bones a deep green in color; one large birch-bark basket with holes or stitches around its margin and where the pieces were joined; one piece of tanned hide, probably deer skin; one bone object an inch and a half long, probably an arrow nock, which is

shown in figure 8. The latter has a hole in one end for the tang of the arrow, and a cleft or slit in the opposite end for the bow string. Beneath these skeletons and manufactured objects there was more black soil and underneath it a calcareous layer from six to eight inches thick, and then black soil above the original surface of the ground. There were two distinct, well-defined calcareous layers, one of which was three feet higher in the mound than the other. Burial pits one and two were beneath the lower layer, and pits three and four were between the upper and lower calcareous layers. These layers ranged from six to ten inches in thickness.

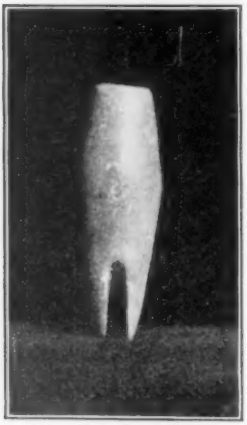

FIG. 8.—Bone Arrow nock, natural size.

Burial No. 5: Black soil; a calcareous layer; then about two feet below the surface occurred eleven pairs of buffalo scapulæ (no stones here); then two human skeletons; three copper beads (now altogether changed into copper carbonate); three shell beads, circular in shape; one bone armlet with holes for fastening it on the arm, and also notches and nine grooves for decoration. The notches are in fives and sevens upon the margin. A little fur of a beaver was present. Several of the bones were deeply stained green by the copper ornaments. One of these copper beads is three and one half inches long and three eighths of an inch wide. These beads are similar to the copper beads found by me in the years 1887 and 1889 in the Dakota mounds.

Burial No. 6: Black soil; a calcareous layer; black soil; then about two and one half feet below the surface three buffalo skulls (no stones here); two human skeletons without heads; one bone armlet in position around the radius and ulna bones of the forearm. This armlet has holes for fastening it in position upon the arm of the wearer, and grooves and notches of decoration.

Burial No. 7: Black soil; a calcareous layer ten inches thick; black soil; then two and one half feet below the surface were found:

two buffalo skulls and one buffalo scapula (no stones) beneath which were two human skulls in fairly good condition, excepting that the zygomatic arch was broken and the lower jaw wanting. One skull has scratches or knife-markings on the frontal bone, and the other has them on the occiput, indications of a secondary burial. About two feet west of these was found a large, perfect, grooved stone maul of gneissoid rock, the groove extending all around the stone.

Burial No. 8: Black soil; a well-defined calcareous layer; black soil; then, at about three feet from the surface, were found one buffalo skull (no stones here), a few small bones of a child, one piece of birch bark, one marine shell bead (*Marginella*) of the same kind as those found in burial pit No. 3 of this mound.

Burial No. 9: Black soil for two and a half feet; then a calcareous layer; then more than two feet of black soil; then about five and a half feet below the surface were found two buffalo skulls (no stones here) resting upon one human skeleton in position with all bones articulated and in a crouching posture, and one marine shell bead about an inch and a half long made from the columella of the marine shell, *Busycon* (or *Fulgur*) *perversum*.

The shell articles in the various pits were doubtless procured by trade from the Gulf of Mexico, and the copper from Michigan, both distant sources of supply.

Not including the crumbling decomposed remains incapable of removal, the "Calf Mountain" mound during the period of my operations upon it yielded: Twenty-eight buffalo skulls; twenty-three buffalo scapulæ; forty-three large stones in four burial pits; twenty human skeletons; fourteen kinds of manufactured objects of shell, copper, bark, hide, bone, and stone; charcoal and charred wood; broken bones of deer and buffalo. Four of the burial pits had both buffalo skulls and large stones covering the remains, and the buffalo skulls were always above the stones. Four of the pits had buffalo skulls alone covering the remains. One pit had buffalo scapulæ alone covering the remains. But in all cases either one or two calcareous layers occurred above the pits and at a distance of from one foot to four feet from the pits. These layers were circular; they varied from about eight to twelve feet in diameter, and exhibited arches or curvatures of different kinds, or arcs of different

circles. These overlapped in several places without touching each other.

More than twenty years ago, so long ago as the year 1889, at the Toronto meeting of the American Association for the Advancement of Science I called attention to the presence of a layer of yellow clay in ten mounds near Devil's Lake, North Dakota, where for several years I had been carrying on investigations. An abstract of my paper was published in the Proceedings of the Association for that year, and from it the following is taken: — "There is, perhaps, a third kind of burial mound in this district. But, as yet, I have been unable to make a separate class for it. Its chief distinguishing characteristic is the possession of a layer of yellow clay two inches thick, which extends through the greater part of the mound and seems to overlie many human skeletons. It may possibly correspond to the covering of the vault or pit described in the first class. In this kind, however, no real excavation occurs, and the layer of yellow clay is found two or three feet above the surface of the ground. For convenience sake it may be temporarily placed between the two preceding classes until other mounds of similar character shall have been carefully studied. I have explored ten mounds of this kind."

A similar description of this structure occurs in my paper "Remains of Prehistoric Man in the Dakotas" read before the Anthropological Society of Washington in March, 1906, and published in the *American Anthropologist* (Vol. 8, No. 4), that same year. In a paper upon "The Archeology of Ontario and Manitoba" read by me last August before the Anthropological Section of the British Association for the Advancement of Science, an outline of which appeared in a recent number of the *American Anthropologist* (Vol. XI., No. 3, page 472), I described the structure of a burial mound in western Manitoba which contained one large, well-defined calcareous layer, and one yellow clay layer about two feet above the former.

But, here in "Calf Mountain" mound there were many burial pits and many such whitish calcareous layers. I found nine burial places. The number found by those who first opened this mound is not known to me; but probably there were two or three found

by them. This would make at least eleven burial places in the one mound.

The exact number of calcareous layers could not be determined because of the previous operations upon the mound, but I have concluded that in all probability there was one for each burial place. There were certainly as many as six. Other broken pieces may or may not have been continuous with any of these six. If they were never connected with them there must have been nine layers over the nine burials. The layers at higher levels formed portions of larger circles than those at greater depths, and in several parts of the mound they inclined at different angles and also to a variable extent overlapped. These conditions seem to indicate a growth of the mound in size and direction by each additional burial spot selected, the calcareous protective covering of the burial pit being made to suit the size and form of the mound at that stage of its growth or period in its history.

The condition of the human bones and the objects of handiwork found with them also give evidence in the same direction. Those found at lower depths, although much better and more securely protected from the atmosphere and moisture, were much more decomposed than those found at higher levels. The difference in the state of preservation was very marked indeed. It was not possible to save much of the remains found at the lowest levels.

If we assume that this mound contained the burials of successive generations of the same family, and that each burial place received the remains of one generation (which there are reasons for believing), and we also assume that the period of the active use or receptivity of a burial pit occupied about forty years, a mound of this size possessing about a dozen burial places would require nearly five centuries for its completion. This time may seem to some to be too great, yet it would scarcely be sufficient to account for the difference in the condition of the mound's contents. This conclusion is reached by a comparison with remains from elsewhere whose date of interment is known.

Again, if we consider the quantity of the water supply at the present time, consisting of one very small pond of brackish water a quarter of a mile distant and another small one nearly two miles

away, and we compare this supply with what must have been in that locality during its occupation by these prehistoric people, it appears reasonable to believe, that at least a thousand years must have elapsed since the first burial took place in this tumulus. It is, of course, not necessary to assume, that, in the construction of this mound or of any burial mound everything was done with the greatest regularity and accuracy as to time or to the remains interred. Postponement of burials sometimes occurred, and this occasionally led to second or secondary burials. Doubtless on some occasions the remains of others not the immediate members of the family were also admitted. But generally the burial mounds in the Dakota states and in Manitoba must have been erected in this manner, each mound growing in size by the burial of each generation.

FIG. 9.—Onyx pipe-bowl with human face-mask. Found in Ontario, Can.

In this tumulus there was discovered another object which ought to be mentioned here (see plate III). It is a carved and sculptured shell, found in the dirt that had been thrown back into the trench by the persons digging here in former years. There can be no doubt that it was originally a part of the contents of a burial pit. The article in question is a piece of a large heavy marine shell, most probably the univalve, *Fulgur perversa*. It measures four and one-eighth by four and five-eighths inches (10.3 by 12 centimeters). Perhaps the chief interest attaching to it is that it belongs to a class of engraved and sculptured shell objects which are characteristic of the southern mounds, and are almost entirely confined to Tennessee and Virginia. While very similar to five or six objects taken from mounds in these two southern states it differs from them to some extent in the details of the carving and also in having carvings upon both its sides. It has a human face mask upon the convex surface, with a groove outlining the face, a sculptured nose, a raised node instead of a mouth, perforated eyes, and peculiar zigzag lines on the cheeks. These are nearly but not quite as they are seen upon two or three specimens from Tennessee. It

Shell object, convex side having a human face-mask, showing nose and mouth node less perfectly than seen on the original.

Concave side of shell object. About two-thirds natural size. Much worn; but showing remains of carvings of probably a mythical creature, a combination of a man, a turtle, and a beaver.

also greatly resembles the face mask on the bowl of an onyx marble pipe from the province of Ontario, excepting that on the pipe (figure 9) eyebrows are present, the mouth node or eminence is wanting and there is no grinding or sculpturing of the nose, the innermost incised lines having been placed closer and made to indicate the position of the nasal organ. Whether or not this face was intended to represent a mourning mask worn at burial ceremonies, the zigzag lines showing the course of tears running down the cheeks, or that these lines represent the form of the painting or of the tattooing of an individual or of a tribe is not known. Owing apparently to wear, the figures cut upon the concave surface of the shell are very indistinct in some places and in a few spots are altogether obliterated. In other parts, however, they are quite distinct, and, although differing, they exhibit some resemblances to one or two from Tennessee which have been figured and described by Dr W. H. Holmes in his "Art in Shell of the Ancient Americans." This is the second large marine shell bearing an engraved human face mask which has been found in Manitoba, one having been taken out of a mound by me during the summer of 1908. In connection with same other features of Canadian archeology the finding of these *Fulgur* shell carvi: gs indicates that these prehistoric people were probably contemporaneous with those of Tennessee and the vicinity.

UNIVERSITY OF TORONTO,
TORONTO, CANADA.

SOME NEW MISSOURI RIVER VALLEY SITES IN NORTH DAKOTA

By G. F. WILL

THE new sites to be described in this paper are some that are not already located by the North Dakota State Society, which has recently added a number of sites to the list known. Among the sites long recognized historically but not definitely located perhaps the most important were the two Apple Creek Mandan sites, specifically mentioned and marked on their map by Lewis and Clark. They figure prominently in the history of the Mandans as the villages first abandoned during the earliest epidemic of smallpox, after having been raided by the Sioux. Many unsuccessful attempts were made by the writer to get definite data on these sites, and every source of information was sought. A letter, however, from the late Jos. Taylor of Washburn, N. D., gave the first authentic information of their existence in comparatively recent years. He declared that he had visited both sites over thirty years ago and found them plainly marked and plentifully strewn with potsherds.

Several days were spent by the writer and Mr William Sunderand in a careful search along Apple Creek from a point about five miles up it to the mouth. The search finally resulted in the location of one site which not only answers to the location of the lower Apple Creek site, but also seems to agree with Lewis and Clark's description of the first Mandan site seen by them.

This site is situated on what is known as the Holbrook place, now belonging to Mr William Small, in range 137, township 80, sections 17–18, about ten miles south of Bismarck. It lies on the edge of the river bluff, whence the land slopes gently up on the east toward some high hills a mile or a mile and a half away.

The ground has been plowed and seeded many years, and at the present writing traces of mounds, ditch and rings are almost completely destroyed. At the time of the location, however, the ditch and a number of the mounds were still distinguishable. The site

extends along the bluff about twelve hundred feet, the depth back up the gentle slope being about six hundred feet. A ditch ran from the north end of the village on the edge of the bluff in a flattened semi-circle to the south end where it terminated at the edge of the bluff which is quite steep all along here. The ditch was traceable for the whole distance, and the large mounds seemed to skirt the inner side of the ditch, with lower mounds and barely distinguishable depressions in the enclosed area.

The typical potsherds and bone chips were present, bone chips in considerable quantities but pottery rather scarce and in very small fragments, due probably to the frequent stirring of the soil. Mr Small presented the writer with two fine polished stone celts which he had plowed up on the site. These are now in the Peabody Museum, Cambridge, Mass. The pottery in its general character and rim decoration corresponds to that from the other Mandan sites.

As has been said, this site is located about one mile south of the present mouth of Apple Creek. It seems probable, however, that the creek at one time emptied into the Missouri considerably further south than at present. This site is also opposite the uppermost of several round buttes across the river, and would thus satisfy quite well Lewis and Clark's description of the first old Mandan village seen, as being opposite the uppermost of several round buttes and located on the point of a hill ninety feet above the plain or bottom. Furthermore, it seems to agree in point of distance with the other sites identified as seen by Lewis and Clark. The site seems to be that of a very considerable village, and apparently satisfies pretty thoroughly both the requirements for the lower of the two Apple Creek sites, and for the first site seen by Lewis and Clark.

As to the other site on this creek a considerable amount of search has so far revealed no traces. At a point some four miles up the creek, on the north side, and partially upon the Norman Falconer farm, there are several curious mounds. A cache or pocket of chipped flint was recently found in the neighborhood also, and arrowheads have been picked up in the field. There are no traces of fortifications, however, nor of depressions and rings, and the four mounds are several hundred feet apart, regular in shape, one being of the well-known dumb-bell form, and resembling more

those described as found on Mouse River than the ones usually seen about the Mandan sites. Further, no trace of pottery has ever been found here. Further investigation will probably throw more light on the origin of these mounds.

It has been said that the ground on which the above described Holbrook site is located slopes up to some high hills. On the top of one of these hills, at a distance of about one mile from the site and directly overlooking it, are some thirty or forty depressions, six to ten feet across, and with an average depth of about one foot. Excavation here revealed only a very few bone chips and a few signs of burned earth at a depth of six to twelve inches. A little way down the hill, however, a fine arrow point was picked up.

Another site, though not yet definitely located, will be spoken of, as it may prove to be of considerable importance. Although it has not yet been definitely placed, considerable information concerning it is given by Mr Dan Williams, of Painted Woods, N. D. He visited it about forty years ago in company with the late Joseph Taylor, and gives the appended account of it.

"We were passing from the northeast and crossed the line of the Northern Pacific Railroad at or near where Menoken now is. It might have been a mile to the east or west of that. In passing along we came to a place where it looked as if water was close to the surface, owing to the presence of scattering clumps of willows and bullberries, we also noted that we were among a lot of mounds or hillocks similar though not as high as those at the head of Burnt Creek bottom (the Burgois site). We then dismounted and upon examination concluded that it was the site of an old Indian village. It was surrounded by a trench or ditch like those opposite this place. We also found great quantities of pottery, mostly small pieces. We camped that night between the bluffs at Tom Sander's place."

This latter place is about two miles east of Glencoe, N. D. Mr Williams also stated that the village was seen shortly after midday. This would probably place the site within two or three miles to the east of Stewartsdale, N. D. It seems likely that this site could be identified with the village at which La Verendrye stopped while his son went to the village on the river.

BISMARCK, NORTH DAKOTA.

ANTHROPOLOGY AT THE BOSTON MEETING WITH PROCEEDINGS OF THE AMERICAN ANTHROPOLOGICAL ASSOCIATION FOR 1909

By GEORGE GRANT MacCURDY

AS was the case a year ago the American Anthropological Association and the American Folk-Lore Society met in affiliation with Section H of the American Association for the Advancement of Science. The sessions which began on December 27 and lasted till noon on December 30 were held in the Engineering Building of the Massachusetts Institute of Technology. The attendance was better than a year ago and a number of important papers were presented. Professor William H. Holmes was present as Vice-President of Section H and President of the American Anthropological Association, while Dr John R. Swanton presided over the single session in charge of the American Folk-Lore Society.

Section H

Officers for the Boston meeting were nominated as follows: Member of the Council, Professor Franz Boas; Member of the General Committee, Dr Charles Peabody. Sectional offices were filled by the nomination of Professor Roland B. Dixon, Cambridge, Mass., as Vice-President for the ensuing year, and Professor Geo. B. Gordon member of the Sectional Committee to serve five years. In accordance with a change in the Constitution enlarging the Sectional Committee, the Section recommended to the Council that the American Anthropological Association, the American Folk-Lore Society and the American Psychological Association be designated societies suitable for affiliation with Section H.

The American Anthropological Association

Members of the Council present in addition to President Holmes were Franz Boas, R. B. Dixon, G. B. Gordon, B. T. B. Hyde, G. G. MacCurdy, C. Peabody, G. H. Pepper, and J. R. Swanton.

Report of the Secretary.— The Secretary, Dr George Grant MacCurdy, reported that there had been no special meeting or council meeting since the close of the session in Baltimore, the proceedings of which had been published in the *American Anthropologist* for January–March, 1909.

There has been only one death reported for the year, that of Dr William Jones who was assassinated last March by hostile natives of the Philippine Islands while conducting ethnological researches in Luzon. An account by Professor Boas of Dr Jones' active and promising career appeared in the *Anthropologist* for January–March, 1909.

The annual growth in membership continues to be satisfactory, 50 new names being herewith submitted for election, as follows:[1]

I. O. Acton, Otto Aichel, M.D., Buckner Beasley, Miss Martha Warren Beckwith, Thomas Beckwith, Eric Boman, Samuel W. Brewster, R. J. Briggs, D.D., Brooklyn Institute Museum Library, Dr MacMillan Brown, F. F. Carey, Fay Cooper Cole, George W. Cooke, Miss Anna F. Cummings, G. Cusachs, Prof. H. B. Davis, Dr Joseph Kossuth Dixon, Mrs M. A. Drake, Dr Nathaniel B. Emerson, John W. Ferguson, Mrs Edna H. Ford, Charles W. Gates, Albert N. Gilbertson, Alexander A. Goldenweiser, Percy T. Griffith, Doctor Josef Hammar, Philip Hinkle, Henry R. Howland, Emil Lenders, Library of Brown University, Samuel Allanson Lurvey, John Alden Mason, Thomas Albert McKay, Frederick T. Mayer-Oakes, George H. Mead, Milo G. Miller, M.D., Nels C. Nelson, Frank Proctor, Dr Joseph Reinhart, Mrs Thomas Roberts, Count Erok von Rosen,. Prof William Benjamin Smith, Olof Solberg, Otto Stöger, Dr John L. Todd, Hutton Webster, George X. Wendling, Blair S. Williams, Jeremiah Zimmermann, D.D.

Eight of our members attended the Winnipeg meeting of the British Association for the Advancement of Science: Boas, Miss Breton, Gordon, Hartland, Hill-Tout, MacCurdy, Montgomery, and Morice.

Report of the Treasurer. — The Treasurer's report which was received and referred to an auditing committee appointed by President Holmes, consisting of J. R. Swanton and J. D. McGuire is as follows:

[1] Full addresses are given in the list of members printed in this issue.

Receipts

Balance for 1908		$ 624.32	
From the Anthropological Society of Washington for *American Anthropologist*,			
Vol. X, No. 3	$ 64.19		
Vol. X, No. 4	83.55		
Vol. XI, No. 1	72.04		
Vol. XI, No. 2	62.54		
Memoirs and extra copies to members	27.84	310.16	
From American Ethnological Society for *American Anthropologist*,			
Vol. X, No. 3	62.72		
Vol. X, No. 4	62.54		
Vol. XI, No. 1	58.43		
Vol. XI, No. 2	59.39	243.08	
Annual Dues		1,189.07	
Annual Subscriptions to *American Anthropologist*		520.90	
Sale of back numbers and extra copies of *American Anthropologist*		114.05	
Sale of *Memoirs*		43.83	
Publication Fund		109.73	
Authors' Reprints (at cost)		145.26	
Advertisements in *American Anthropologist*		17.62	
In bank unaccounted for		19.01	
			$3,337.03

Expenditures

For printing, binding, and mailing *American Anthropologist*,			
Vol. X, No. 3	$294.43		
Vol. X, No. 4	418.03		
Vol. XI, No. 1	328.38		
Vol. XI, No. 2	322.47	1363.31	
Memoirs		286.45	
Reprints		412.14	
Insurance on back volumes		15.00	
Illustrations for *American Anthropologist*		486.71	
Editorial expenses		41.43	
Treasurer's expenses		158.21	
Secretary's expenses		12.65	
Returned subscriptions to *American Anthropologist*		20.50	
Buying back volumes		38.25	
Refund of dues		3.25	2,837.90
Balance			$ 499.13

It will be noted that only Nos. 1 and 2 of Volume XI are paid for.

Treasurer's Expenses Itemized.

Services of assistant	$100.00
Printing stationery and stamped envelopes	49 54
Installing card index for membership and subscription lists	5.87
Bank collections on deposits	2.80
	$158.21

The committee on amendments appointed at the Baltimore meeting and consisting of F. W. Hodge, G. G. MacCurdy and R. B. Dixon, made a report recommending the following:[1]

ARTICLE III

Second line of section 2. Change "three members" to "two members."

ARTICLE V

Section 1. Change "twenty-four Councilors" to "a number of Councilors to be determined from time to time by the Association."

Section 2. Change "six Councilors" to "one-fourth of the total number of Councilors."

Add the following at the close of Section 3:

The President, the Secretary, the Treasurer, the Editor, and three additional members of the Council to be designated by the Council, shall form an Executive Committee of the Council, which shall meet at the call of the President, act in behalf of the Association, except during the meetings of the Association or of the Council, in all matters requiring attention.

Section 4. Change "and of the Council" to "of the Council and of the Executive Committee."

Section 6. Change "under the direction of the President of the Council" to "under the direction of the President."

ARTICLE VI

Section 3. Change "three" to "at least two."

The Chair appointed Messrs Boas, Dixon, Gordon, Hyde, and MacCurdy as a Committee on Nominations. The report of this committee was accepted, the election resulting as follows:

President: Prof. William H. Holmes, Washington.

Vice-President, 1910: Dr George A. Dorsey, Chicago.

Vice-President, 1911: Miss Alice C. Fletcher, Washington.

Vice-President, 1912: Prof. R. B. Dixon, Cambridge.

[1] These amendments are to be considered at the next annual meeting.

Vice-President, 1913: Prof. George B. Gordon, Philadelphia.
Secretary: Dr George Grant MacCurdy, New Haven.
Treasurer: Mr B. T. B. Hyde, New York.
Editor: Mr F. W. Hodge, Washington.

Council: W J McGee, F. W. Putnam, F. Boas, W. H. Holmes, C. B. Moore, G. A. Dorsey, Alice C. Fletcher, R. B. Dixon, G. B. Gordon, G. G. MacCurdy, B. T. B. Hyde, F. W. Hodge (*ex officio*); C. P. Bowditch, A. F. Chamberlain, S. Culin, R. H. Lowie, J. Walter Fewkes, E. Sapir (1910); E. L. Hewett, S. A. Barrett, W. Hough, A. Hrdlička, A. L. Kroeber, A. M. Tozzer (1911); M. A. Saville, H. I. Smith, G. H. Pepper, W. C. Farabee, J. R. Swanton, G. G. Heye (1912); W. C. Mills, H. Montgomery, C. B. Moore, W. K. Moorehead, C. Peabody, C. C. Willoughby (1913).

To represent the Association in the Council of the American Association for the Advancement of Science: R. B. Dixon and G. B. Gordon.

The sum of $200 was appropriated for the employment of an Associate Editor and Dr John R. Swanton was appointed to the position.

On motion the time and place of the next annual meeting were referred to the President and Secretary with power to act.[1]

The incoming President, Professor Holmes, appointed committees as follows:

Committee on Meetings and Program: G. G. MacCurdy (chairman), Miss Alice Fletcher, R. B. Dixon, F. W. Hodge, J. R. Swanton, A. Hrdlička.

Committee on Finance: B. T. B. Hyde (chairman), G. G. MacCurdy, W. H. Furniss, 3d, George G. Heye, Clarence B. Moore, C. P. Bowditch.

Committee on Publication: The names of the members of this committee appear on the third page of the cover of this number of the *American Anthropologist.*

Committee on Policy: Miss Alice Fletcher (chairman), Franz Boas, F. W. Putnam, A. L. Kroeber, George Bird Grinnell, F. W. Hodge, W J McGee.

Committee on American Archeological Nomenclature: C. Peabody (chairman), W. K. Moorehead, H. I. Smith, Walter Hough, Mitchell Carroll.

Committee on the Concordance of American Mythologies: F. Boas, (chairman), J. R. Swanton, A. L. Kroeber, R. B. Dixon.

[1] The next annual meeting will be held during the Christmas holidays at Providence, R. I., which is also the place of meeting of the Archæological Institute of America and the American Philological Association.

Committee on Nomenclature of Indian Linguistic Families North of Mexico: F. W. Hodge (chairman), F. Boas, A. L. Kroeber, R. B. Dixon, J. R. Swanton, J. Mooney, A. F. Chamberlain.

Committee on the Preservation of American Antiquities: W. H. Holmes (chairman), E. L. Hewett (secretary), Alice C. Fletcher, G. G. MacCurdy, G. B. Gordon, F. W. Hodge, A. L. Kroeber, M. H. Saville, F. W. Putnam, S. Culin, J. Walter Fewkes, F. W. Hodge.

Addresses and Papers

The address of Professor R. S. Woodworth, retiring Vice-President of Section H, entitled "Racial Differences and Mental Traits," has been published in *Science* (vol. xxxi, no. 788, pp. 171–186). It was followed by an important discussion on related topics such as: brain weight in relation to race, intelligence, and the finer structure of the brain; and the relative influences of heredity and environment, in which Professors H. H. Donaldson, Frederic Adams Wood, E. E. Southard, Franz Boas, and J. McK. Cattell took part. The address of Dr John R. Swanton, President of the American Folk-Lore Society, on "Some Practical Aspects of the Study of Myths," has been published in the *Journal of American Folk-Lore* (vol. xxiii, no. 1, pp. 1–7).

Most of the papers read at the joint meeting are represented in this report by abstracts. These are:

Some Fundamental Characteristics of the Ute Language: Dr. Edward Sapir.

The Ute language, originally spoken in much of Colorado and Utah, forms the easternmost dialect of the Ute-Chemehuevi subgroup, according to Kroeber's classification, of the plateau branch of the Shoshonean linguistic stock. It is itself spoken in at least two slightly different dialects, which may be termed Uintah and Uncompahgre Ute. The phonetics of Ute are only superficially easy, actually they are characterized by many subtleties. The consonantal system in its original form can, by internal evidence, be reduced to the "intermediate" stops p, t, tc, velar q, and labialized q^w, the sibilant c (really a sound intermediate between s and c), the nasals m, n, and ñ, and the voiced spirants w and y; in Uncompahgre ñ seems normally replaced by nasalization of preceding vowel. These consonants undergo various mechanical changes. Before vowels which,

for one reason or another, have become voiceless, the stops become aspirated surds (p^{ϵ}, t^{ϵ}, q^{ϵ}, and $q^{\epsilon w}$), while the nasals w and y lose their voice, the voiceless $\tilde{n}$ often, at least in Uncompahgre, becoming merely nasalized breath with the vocalic timbre of the reduced vowel. Between vowels the stops become voiced continuants (bilabial v, trilled tongue-tip r, velar spirant γ and γ^{w}). Lastly, if the stops are preceded by a vowel and followed by a voiceless vowel, they become voiceless continuants (voiceless bilabial v, voiceless r, x, and x^{w}). Thus, an etymologically original intermediate p may appear in four phonetically distinct forms: p, p^{ϵ}, v, v; the voiced stops (b, d, g, g^{w}) may also, though not normally, be heard as modifications of original intermediate stops, particularly after nasal consonants. To be carefully distinguished from the simple consonants are the long consonants (pp, tt, ttc, qq, qq^{w}, cc, mm, and nn) and consonants with immediately following or simultaneous glottal affection (such as m^{ϵ}, w^{ϵ}, tt^{ϵ}). The vowels are perhaps more difficult to classify satisfactorily. As etymologically distinct vowels are probably to be considered a, u, i, weakly rounded ŏ, and perhaps ŭ and ĭ (Sweet's high-back-unrounded ?). The influence of preceding and following vowels and consonants, however, gives these vowels various shades, so that actually a rather considerable number of distinct vowels are found (thus u may become close or open o, i before v is a very different vowel from i before γ, a is often palatalized to open e, and so on). The various vowels, in turn, exercise an important influence on neighboring consonants (thus i palatalizes preceding q to k^{y}, voiceless r has quite different timbres according to the quality of the reduced vowel following it, and so on). As often in English, it is possible to distinguish between slowly pronounced normal forms and allegro forms. Every syllable, in its original form, ends in a vowel or glottal catch; where it seems to end in a consonant, more careful analysis shows that the aspiration following it has a definite vocalic timbre. Words ending in a voiced vowel are invariably followed by a glottal catch or by a marked aspiration.

Nouns are, morphologically speaking, of two types. The absolute form is either identical with the stem, the final vowel of non-monosyllablic nouns becoming unvoiced (thus pa^{ϵ}, "water," and $puñq^{\epsilon u}$, "pet," "horse," from stems pâ- and puñqu-), or certain

suffixes may be added to the stem to make the absolute form. These suffixes are -ttcᶜ (from -ttci) and -n-tcᶜ, which are particularly common with nouns denoting animate beings, though often found also with other nouns, and -z^{j}, -ppᶜⁱ, and -m-pᶜⁱ, which are often employed to give body-part nouns a generalized significance. In first members of compound nouns, which may be freely formed, these suffixes are lost, but with possessive pronouns -ttci is kept, while -vi, -ppi, and -mpi are lost. Only animate nouns regularly have plurals. Plurals are chiefly of three types: some nouns, particularly person nouns, have reduplicated plurals; others add -$z\upsilon$ (objective -wa) to the stem; still others have a suffix -mᶜ. All nouns with possessive suffixes may form a reduplicated distributive meaning "each one's —." The possessive relation, when predicative, is generally expressed by the genitive-objective form of the independent personal pronoun preceding the noun (thus níⁿnai mōˀᵍ̈ᵊ̄, "it is my hand," absolute mögᵊ̈ōˀz^{j}), when attributive, by suffixed pronominal elements (thus mōᵍᵊ̈ōˀ-nᶜⁱ, "my hand"). Eight pronominal suffixes are found: first singular, second singular, third singular animate, third singular or plural inanimate, first dual inclusive, first plural inclusive, first dual or plural exclusive, and third plural animate. The genitive-objective or non-subjective form of the noun is made by suffixing -a, less commonly -ya, to the stem, the possessive pronoun suffixes always following the objective element; as the objective -a often appears as a voiceless vowel, or, owing to sentence phonetics, may be elided altogether, the deceptive appearance is often brought about that the objective differs from the subjective merely in having the unreduced form of the stem (subj. púñqᶜⁿ from púñqu, obj. puñqúᶜᵃ or puñqú from puñqúa). A well-developed set of simple and compound postpositions or local suffixes define position and direction with considerable nicety.

Verb stems differ for singular and plural subjects, often also for singular and plural objects, the dual always following the singular stem. In some cases the singular and plural stems are unrelated, in others they are related, but differ in some more or less irregular respects, in still others the plural has a reduplicated form of the stem, and in many cases the plural subject is differentiated from the singular by the use of a suffix -qqa (or -kkʸä). Reduplication is used

to express not only plurality of subject or object, but also repeated activity; some verb stems always appear in reduplicated form. The pronominal elements are the same as in the case of the possessive suffixes, except for the second person subject; they may either be appended to, not thoroughly incorporated with, the verb as suffixes, the objective elements generally standing nearer the stem, or they may be appended as enclitics to a noun, independent pronoun, or adverb preceding the verb. When pronominal subject and object are both expressed as enclitics they may either appear together in either of the ways just described, or the subject may be attached to a word preceding the verb, while the object is suffixed to the verb; it seems that only 3d person pronominal enclitic objects are generally combined with following enclitic subjects. Ute has both prefixes and suffixes in its verbs, the former being less transparently affixed elements. The most interesting of the prefixes are a set of elements defining body-part instrumentality; some of the ideas expressed by the suffixes are present activity, futurity, intention, momentaneous action, completion, and others. An important feature of Ute is the presence of numerous compound verbs, the second stem generally being a verb of going, standing, sitting, or lying. Sometimes these second elements of compounds have quasiformal significance (thus "to be engaged in eating" is expressed by "to eat-sit").

On a Remarkable Birch-bark Fragment Found in Iowa. Mr WARREN K. MOOREHEAD.

Some thirteen years ago there were found near Fairfield, Iowa, two pieces of oak wood fitted together and covered with gum or wax The oak had been cut with stone axes, and apparently the wax was of aboriginal origin. There was a light hollow or cavity in the center of each piece of wood. When the wood was fitted together this cavity would be four inches square and an inch thick. Within this had been folded and placed a strip of birch bark of unknown length. The workmen in digging out this piece of wood struck it with a pick and broke it open. There was a strong wind blowing at the time, and half of the birch bark was blown away and lost. The other fragment was preserved and given to a school teacher. She sent the specimen to Mr R. S. Peabody, Founder of the Museum at

Andover. The author is convinced of the genuineness of this find.

The specimens were submitted for examination and comment, the latter being favorable in respect to their authenticity.

The Condition of the Ojibeway of Northern Minnesota. Mr WARREN K. MOOREHEAD.

This paper, while not strictly ethnological in character, is based upon over four months residence last summer with these Indians at White Earth, Minn., for the Indian Office, Washington. The Indians have abandoned their old time customs, and taken on many of the vices of the whites. The Mid-di-wi-win or grand medicine society is not as of old. Day Dodge, a man of 82, is the sole survivor of the Mid-di-wi-win members of the old school and to his keeping is intrusted the birch bark records. He has agreed to translate these and present them to the museum at Andover. These Indians have been cheated out of fully 90 per cent. of the 11,000 allotments of pine timber and farm lands issued to them by the Government at Washington. They now live in unsanitary cabins, are crowded together, and have lost much of their tribal life.

The Chronic Ill Health of Darwin. Dr ROBERT HESSLER.

A study of the chronic ill health of Darwin after the manner of the paleontologist, the data in the "Life and Letters" and "More Letters" being studied in the light of the ill health of a number of individuals who seem to have similar ill health. It is largely a study of environmental influences and of interpreting symptoms, not of disease but of ill health, and showing on what the ill health depended. The paper was illustrated by charts.

Anthropology in the Peale Museum. Mr GEO. H. PEPPER.

The Peale Museum of Philadelphia was an institution of note in the days when scientific collecting was in its infancy. For many years it has been known that it contained a fair sized collection of anthropological material but none could say how much or what the character of the specimens.

Charles Willson Peale was the founder of this interesting institution which began its active career in 1794. The general history and a monograph on the ornithological specimens have been written, but no record of the anthropological material is known to exist.

In the archives of the Pennsylvania Historical Society an accession book was found. It gives the accessions from 1805 to 1842 and it is from these entries that the major part of the information presented in this paper was obtained. The most interesting of these were selected, and among them were the records of specimens obtained by Merriweather Lewis and William Clark, "In their voyage and journey of discovery up the Missouri to its source and to the Pacific Ocean." The rather long list of specimens noted are from the various tribes visited by these early explorers. Among other entries of note were specimens collected by Colonel Pike and other noted travelers.

A general history of the Museum with its various homes and the final sale of the material brings the paper to the final disposition and fate of many of the specimens. All that are known to be in existence are now in the Peabody Museum of Harvard University at Cambridge, Mass.

Huron Moose Hair Embroidery: Dr F. G. Speck.

This paper deals objectively with the moose hair appliquée embroidery of the Huron Indians now living at Lorette P. Q., Canada. The present known distribution of this type of decoration was given, followed by remarks on its antiquity and history. Details of the technique, of which there are six varieties, were treated and illustrated from specimens collected by the author and from those preserved in the collections of various museums. A list of nineteen decorative figures shows the prominence of flower designs in this art, since all but two of the figures represent either partial or complete flowers or trees. The author described and interpreted the figures found on various embroidered specimens. The paper concluded with a discussion of both the technique and the symbolism of Huron art, and, so far as was possible, a comparison of the designs with those of adjacent tribes. This paper, the material for which was obtained during several visits to Canada in 1908–1909, is intended to appear, illustrated with figures and plates, in a new volume of the Anthropological Publications of the University of Pennsylvania Museum.

Assiniboine Folk-lore: Dr Robert H. Lowie.

The Assiniboine, as a Dakota tribe living for a long time in close

contact with the Cree, might naturally be expected to exhibit in their mythology traces of both Siouan and Algonquian influence. As a matter of fact, the trickster-hero cycle presents relatively few homologies with Siouan mythology, but bears the impress of Western Algonquian influence. On the other hand, the miscellaneous folk-lore tales, while to a considerable extent shared by the same tribes, do not show the predominance of their influence, because an approximately equal number has also been recorded among the Omaha. From a psychological point of view, it is interesting to note that I^{n}kto^{n}m^{i}, who appears in the mythology of the Dakota proper as a pure trickster type, assumes among the Assiniboine some characteristics of the culture-hero. The secondary association of elsewhere distinct motives is also abundantly exemplified.

What is Totemism? Mr A. A. GOLDENWEISER.

An analysis of the various definitions of totemism discloses a set of phenomena generally covered by that term. In examining the two typical totemic regions — Australia and northern British Columbia — we find them differing in all essential points. If we then follow up the various social and religious phenomena comprised in totemism, in a number of cultural areas we find that each one of these phenomena may and does occur independently, often stands for different psychological facts, and has an independent origin.

In totemism then we must see an association of these several factors. From this point of view totemism becomes the product of a process of convergent evolution, and we are confronted with a number of historical and psychological problems to be investigated.

The Myth of Seven Heads. Prof. ALEXANDER F. CHAMBERLAIN.

Among the "miscellaneous tales" recorded by Dr Clark Wissler and Mr D. C. Duval, in their recent monograph on the *Mythology of the Blackfoot Indians*[1] is "a myth of a seven-headed person who made a business of devouring young women." He is killed by a man who receives "power" from some animals for whom he settles a quarrel. The conclusion of the tale is as follows: "After this he married a princess. Then the thunder stole her, but he secured her by killing a lion, then an eagle which flew out of the lion, then

[1] Anthrop. Pap. Amer. Mus. Nat. Hist., II, 163, 1908.

a rabbit which came out of the eagle, then a dove which came out the rabbit, etc.

The authors cited comment upon this tale: "This story is believed by the Indians to have been brought in by the French." The conclusion certainly suggests such an origin, with its mention of a "princess," and the succession of animals killed.

But a "tale of Seven-heads" is known from the Kutenai,[1] Arapaho, and Sarcee, — and probably also the Gros Ventre. So far as the present writer is aware, the only native text of the "tale of Seven-heads" hitherto obtained is the unpublished Kutenai version recorded in 1891 by him from the dictation of a Lower Kutenai Indian. In the Kutenai version Wistatlatlam (Seven-heads), is defeated and killed by a youth named Sanuktlaent (Bad Shirt), after he has been given "medicine," to make him strong, by a young woman, his wife. Here the tale is thoroughly Indian in aspect; the "princess" is absent; and the story ends by the hero cutting or pulling out the tongue of his defeated adversary, and carrying it home as evidence of his triumph.

The Kutenai version seems to prove that we have here an original Indian legend, which in the case of the Blackfoot version noted above has been contaminated from European sources, the Kutenai retaining the simpler aboriginal form.

Professor W. H. Holmes, President of the joint meetings of Section H and the American Athropological Association, read an important paper on "Some Problems of the American Race," which was illustrated by original and instructive diagrams. The paper being still unfinished will not be published at present. Prof. Henry Montgomery's paper, "'Calf Mountain' Mound in Manitoba" appears in the present issue of the *Anthropologist*. Dr S. A. Barrett's two communications on: "The Characteristics and Material Culture of the Cayapa-Indians" and "The Cayapa Spirit World" are extracts from a larger work which will appear shortly as part of a series printed privately and entitled: "Contributions to South American Archeology." The paper by Dr George Grant MacCurdy on the "The Alligator Motive and Figures with Mixed Attributes

[1] Chamberlain, Rep. Brit. Assoc., 1892; Kroeber, Anthrop. Pap. Amer. Mus. Nat. Hist., I, 57, 1907.

in the Ancient Art of Chiriqui" is to appear as a monograph in the Anthropological Publications of the University of Pennsylvania.

Two other papers were read of which the secretary has no abstracts: "Native American Ballads," by Mr Phillips Barry; and "A possible Explanation of Conventionalized Art," by Dr H. J. Spinden.

The following papers were read by title:

Dr Stephen D. Peet: (*a*) Rock Inscriptions; (*b*) Stages of Progress in Parallels of Latitude.

Dr Walter Hough: (*a*) The Incensario; (*b*) The Distribution of Gray Pottery in the Pueblo Region.

Mrs Sarah S. James: Symbolism in a Japanese Marriage.

Professor A. F. Chamberlain: Distribution of South American Linguistic Stocks (map).

Mr John P. Harrington: An Introductory paper on the Taos Dialect of the Tiwa Language (printed in this journal, pp. 11–48).

Professor Franz Boas: Literary Form in Oral Tradition.

Mr A. T. Sinclair: Folk Songs and Music of Cataluna.

Mr Leo J. Frachtenberg: A Grammatical Sketch of the Coos Language of Northwestern Oregon.

One of the particularly attractive features of the week was "Cambridge Day," all members of the joint meeting being guests of the Division of Anthropology of Harvard University. The morning was spent at the Peabody Museum, after which luncheon was served at the Colonial Club. A special car was provided both to and from Cambridge. Many members also took advantage of the special facilities offered by their respective officers to visit the museums of anthropology at Salem and Andover. The social functions included a number of special luncheons and dinners given by local anthropologists and their friends.

YALE UNIVERSITY MUSEUM,
NEW HAVEN, CONN.

PROCEEDINGS OF THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON

Meeting of October 12, 1909

The 434th regular meeting was opened by Dr J. Walter Fewkes, the President of the Society.

The paper of the evening was by Dr Aleš Hrdlička, whose subject was "The Anthropology of Egypt in the Light of Recent Observations." This dealt mainly with the results of Dr Hrdlička's expedition to Egypt, carried out during the earlier part of the year under the auspices of the Metropolitan Museum of Art and the National Museum. The expedition brought, besides other results, very important additions to the skeletal collection in the National Museum.

The speaker, after pointing out the importance to anthropology of studies on the Egyptians, and mentioning the important work that has been and is being done in Egyptian research and exploration by American men of science, particularly Breasted, Reisner, Lythgoe, and Davis, proceeded to discuss the results of recent investigations on well identified skeletal remains from that country, ranging from the earliest to the latest periods, and also the results of his examinations of the living remnants of the Egyptians.

The principal facts brought out were the following:

Contrary to the hitherto prevailing opinion, there were in the course of time marked changes in the physique, particularly the form of the skull, of the Egyptians, the ancient crania being, on the average, decidedly longer and narrower than those of the later periods.

The Egyptians originated, in all probability, from more than one stream of anthropologically related people, the principal elements being Libyan and Puntite or Arabian.

Negro admixture was very small up to the time of the empire. A more noticeable addition consisted of a brachycephalic strain coming probably from Asia Minor. This is traceable from the earliest times and became important during the Greek and Roman occupation.

The Egyptians were light to medium brown in color, with generally black, straight to slightly curly hair, moderate stature, and a muscular development. They approached closely in all their important features the north Africans and southwestern Asiatics and with these the European dolichocephalic whites.

At the present time the ancient Egyptians may be considered as practically extinct or rather obliterated. The actual population of the country is an amalgamation of the original inhabitants and of the Arabs, Semites, and Negroes with many elements from the northwest, north, and northeast of the Nile Valley.

In certain localities traces of the Egyptians can still be recognized. This seems to be principally the case in the great oasis. A series of 155 natives of this oasis were closely studied, and photographed. The data are being prepared for publication.

The paper was discussed by Professor Holmes, Dr Casanowicz, Dr Folkmar, Dr Hough, Dr Fewkes, and others.

Meeting of October 26, 1909

At the 435th regular meeting the president, Dr J. Walter Fewkes, spoke on "The Preservation of Cliff-dwellings," illustrating his discourse with lantern slides.

"The preservation of cliff dwellings," said the speaker, "is one aspect of a more comprehensive problem now attracting great attention, the conservation of our resources. The protection of the antiquities of our country is imperative, for if neglected much valuable material pertaining to prehistoric America will be destroyed by the elements or by vandals in a few years." Excavation and repair of cliff-dwellings are necessary, not only to put these interesting relics of the past in such condition that tourists may obtain correct ideas of this type of prehistoric architecture, but also to furnish students with data for comparative studies.

The two cliff dwellings that already have been repaired by the government are Spruce-tree House and Cliff Palace, both of which ruins are situated in the Mesa Verde National Park, Colorado.

The field work of repair of cliff-houses under direction of the Secretary of the Interior was in charge of Dr Fewkes, who was detailed for that work by the Secretary of the Smithsonian Institution. The treatment of these ruins consisted of excavation and repair. The ideal is educational and no restoration was attempted. No changes were made in the sky lines of the walls, the purpose of the work being to preserve as far as possible the picturesque characters of the ruins. The condition of Spruce-tree House and Cliff Palace before and after the operations was illustrated by lantern slides made from photographs taken from approximately the same places. The speaker pointed out the many difficulties encountered in the field work, as isolation of the ruins, scarcity of water, and inaccessibility of the ruins from the top of the mesa. He dwelt

especially on the magnitude of the work at Cliff Palace, the largest cliff-dwelling in the southwest, and on the discovery of buried terraces having retaining walls and ceremonial rooms in the talus in front of the secular rooms.

Both Spruce-tree House and Cliff Palace have been completely excavated and repaired so that a visitor can now walk without difficulty or danger from one end to the other through deserted courts, plazas, and rooms, and readily examine all architectural features. All walls in danger of falling have been repaired and new foundations provided wherever necessary.

Dr Fewkes also threw on the screen views of the large cliff-dwellings lately discovered in the Navaho National Monument in the neighborhood of Marsh Pass, northern Arizona. While the dimensions of some of these cliff-dwellings are not less than those of Cliff Palace, they lack the picturesqueness and the fine masonry of the latter. The Navaho Monument cliff-dwellings are rarely more than two stories high and most of the ceremonial rooms are rectangular. These buildings are, however, among the best preserved in the southwest and their chambers might be called more appropriately abandoned rooms than ruins, the broom being more necessary than the spade to put them in condition for tourists and students. It is fortunate for historical science that these houses are now protected from vandals and it is to be hoped that their walls, some of which are tottering, will be repaired before it is too late.

Meeting of November 9, 1909

At the 436th regular meeting Dr Edgar L. Hewett, director of the American School of the Archæological Institute of America, gave an account of the work of the school during the past few years. The lecture was illustrated with stereopticon views. Dr Hewett first described and illustrated the work of the Utah Branch, in immediate charge of Professor Byron Cummings, of the State University of Utah. He threw on the screen views of the large natural bridge and of the two great cliff houses lately discovered in the Navaho National Monument, northern Arizona. Archeological work is now being done on the ruins on this reservation. He showed also the method of work and the results obtained in excavations conducted by the American School at Puye and Rito de los Frijoles, in New Mexico. Excavations at the former place included work on the large community house on the mesa, and on the cliff dwelling at the base of the cliff. He explained the relation of the casas and the rooms built on top of the talus in front of them.

"The ancient remains of the Rito consist of four community houses in the valley and one on the mesa rim near the southern limit of the cañon, and a series of cliff houses extending for a distance of a mile and a quarter along the base of the northern wall." The excavation at the Rito revealed a type of ruin called a talus village; thirteen of these ruins were recognized.

The field work of the school includes not only excavations of ruins but also repair of their walls and, in some minor cases, restoration.

Views were shown of the community house on top of the mesa at the Rito, the trail worn to the summit, an excavated kiva, a restored ceremonial opening, a secular room provided with a fireplace, and another with a mill (restored) for grinding corn. It is contemplated to place in the excavated rooms the more common domestic articles found in them so that in a field museum of this kind these may be viewed in their proper setting.

Meeting of December 7, 1909

At the 437th regular meeting, Dr J. B. Clayton gave an illustrated lecture on "Varying Values of the Cross Symbol."

In common with other universal symbols the cross emblem presents four clearly marked stages in its development — a simple idea, elaboration, sanctity, and decadence. The crux ansata of Egypt, which was originally a water gauge beginning with a simple stick set upright on the banks of the Nile to indicate the height of the annual overflow, was elaborated, first, by the addition of a short horizontal bar, thus forming a tau-cross, the masculine symbol sacred in Phœnicia to Tammuz, and later by the sun-circle, finally changed to a loop, making the object a handled cross. Thus juxtaposed, the fertility of sun and waters suggest the generative powers of nature. This symbol appears in the catacombs with the sun circle transformed into a laurel wreath, expressive of the triumphant faith and hope of Christians. The first historical appearance of the swastika, fourteenth (?) century B. C., is apparently on a small leaden figure three and a half inches long, found by Dr Schliemann in the second city of the ruins of Troy together with many crosses of gold, silver, etc., the location of the symbol on the figure having generative significance. The swastika indicated the sun — the feet referring to the rays, then fire, and finally life. In India, the swastika (*arani*) formed by the two firesticks — the feet indicating flames — was the emblem of fire, then, by an association of ideas, the flame of being. Thor's hammer, identical in form with the Phœnician masculine cross, was the sacred symbol of fire, the hearth, marriage, and fertility, and in his use of this hammer to restore

the two dead goats, the symbol suggests immortality. The paper traced the gathering of various national crosses by the early converts to the catacombs of Rome, where the crux ansata, swastika, tau-cross, and modifications of them all, appear on the walls and tombs. The wave of enthusiasm occasioned by the discovery of America brought many missionaries across the Atlantic — following the reports of those who took possession of the soil under the sign of the cross — and they were amazed to find the cross already so prevalent, attributing its presence to some early Christian missionary, usually St. Thomas. Its use on altars, tablets, and pottery, in weaving, in ceremonies, as well as in representing the orientation of the earth and the heavens, the material and the invisible world, were suggested in support of the thesis that whether as swastika, emblem of fire, wind or water, crux ansata emblem of reproduction, the tau-cross suggestive of the masculine function, or the Latin cross with its acquired ethical suggestion, the cross has always been the generic symbol of the impartation and maintenance of life.

Meeting of December 21, 1909

THE 438th regular meeting of the society was devoted to a paper by Dr I. M. Casanowicz on "The Alexander Legends in the Talmud and Midrash, with reference to Parallels in Greek and Assyrian Literature."

The passages in the rabbinical literature bearing on Alexander the Great may be divided into two sections: (1) those which refer to his relation to the Jews; (2) those which contain episodes of his expeditions and adventures.

The first part includes: (1) Alexander's meeting with the Jewish high priest. At the instigation of the Samaritans Alexander ordered the temple of Jerusalem to be destroyed; but being met by a procession of Jerusalem nobles, headed by the high priest, in whom he recognized the apparition which had walked before him in his victorious campaigns, he revoked the order and delivered the Samaritans into the power of the Jews. (2) The suits brought by several nations against the Jews before Alexander. The Canaanites brought action for the possession of the land of Canaan, as it admittedly was originally their fathers'. They were answered that as Canaan was the servant of Shem he and his possessions were the property of his master. The Egyptians claimed back the gold and silver of which the Israelites despoiled them at the exodus. They were met by the counter claim of the wages for the service of the Israelites for four hundred and thirty years.

The second part embraces the following episodes: (1) Alexander's

dialogue with the sages of the south. He addressed to them ten questions on cosmogonic and moral subjects, as: What was created first? Who is to be called wise? Who strong? Who rich? etc. (2) Alexander's invasion of the land of the Amazons. They ward off his attack by suggesting to him that there will be little glory for him if he kills them, being women, but that he will make himself eternally ridiculous should he be killed by them. (3) Alexander's visit to Qaçia. There he witnesses a suit before the king in which both litigants disclaim the ownership of a treasure. The king advises them to marry their children and give them the find. Alexander said he would have put the litigants to death and confiscated the treasure. The king of Qaçia declares that if rain falls and the sun shines in Alexander's country it must be on account of the animals, for the men did not deserve these boons. (4) Alexander's experience at the gates of Paradise. He was there refused admission but given as a token a ball. He weighed against it all his gold and silver but could not counterbalance it. The rabbis put a little dust upon the ball and the scale in which it was immediately went up. They explained to him that it was the eyeball of a man who is never satisfied. (5) Alexander's ascent into the air. He rose up into the air until the world appeared to him like a bowl and the sea like a chalice. (6) Alexander's descent into the depth of the sea. He caused some of his men to dive into the ocean in glass chests. When returned to the surface they reported to have heard the ocean sing: "The Lord is mighty on high."

Most of these narratives are also found in the Greek compilation of the Alexander legends known by the name of Pseudo-Callisthenes, where they are embellished with many accessory details and otherwise much modified. The episodes of Alexander's adventure at the gates of Paradise, or, as in the Greek account, the fountain of life, and his ascent into the air also suggest parallels in the Assyro-Babylonian literature; the first in the Nimrod Epic, the second in the Etana legends. There is a great resemblance between the rabbinical and Greek accounts, pointing to a relationship between both. But the points of contact between the Assyro-Babylonian account, on the one hand, and the stories in Pseudo-Callisthenes and the Talmud on the other, are too vague and of a too general character to warrant the assumption of a direct relationship between them.

Meeting of January 4, 1910

AT the 439th meeting Dr Aleš Hrdlička, of the National Museum, exhibited a cast of the lower jaw of *Homo heidelbergensis*, donated recently to the National Museum by Professor Schoettensack of Heidelberg Uni-

versity. This jaw, which is preserved at the university and has been described in detail by Professor Schoettensack, was found less than two years ago near the village of Mauer 10 kilometers southeast of Heidelberg under nearly 75 feet of loess and ancient river sand. It dates from the Upper Pliocene or the very beginning of the Quaternary period and represents the most ancient being known that can be regarded as man. To illustrate the remarkable characteristics of this jaw Dr Hrdlička showed a number of mandibula of different anthropoid apes along with those of recent man. The paper was discussed by Messrs Theodore Gill, G. M. Kober, D. S. Lamb, Daniel Folkmar, and others.

The remainder of the evening was devoted to an address by Dr W J McGee, on "Conservation in the Human Realm." The speaker said that the human realm may best be defined in terms of relation to the other great realms in nature; and these are most conveniently stated in the order of increasing complexity, which may be considered also the order of sequence in cosmic development.

The initial realm is that pertaining to cosmic bodies and their interrelations; the fundamental principle comprises the actions and reactions of gravity, impact, etc., which together have been denoted molarity; the field is largely covered by astronomy, with a part of physics. The second realm pertains to atomic and certain molecular interrelations; its fundamental principle is affinity; and its field coincides fairly with chemistry. The third realm is that of organic activity; its principle is vitality, which directly and indirectly accelerated and multiplied the chemical differentiation of the earth-crust; its field is covered by a large part of biology, with cognate sciences. The fourth realm (which is closely allied to the preceding) pertains to those organisms so complete in themselves as to be self-active; its principle is motility; and its field is covered by zoology and allied branches of knowledge. The final realm is that in which motile organisms are so completely self-active as to react upon and dominate lower nature; its principle is mentality; and its field is anthropology in all of those aspects resting on a psychic basis. Now the entities proper to the several realms coexist and interact; and in general the entities of each higher realm dominate over all those of the lower realms. This is especially true of mentality, which employs motility and directs vitality to control affinity and molarity, thereby making conquest over lower nature for human welfare. In the power of mentality human strength lies, while danger also lurks; for the power may be, and in the absence of constraint often is, used for the destruction rather than mere subjection of the materials and forces of nature. Viewed broadly, the exercise

of control over the realms of lower nature pertains to the human realm no less than do the more passive attributes of mankind.

When this nation was founded but two resources were recognized — the men, with the land they made their home. Half a century later coal mining and the practical manufacture of iron began, and in another half century the industrial exploitation of the forests. Yet statecraft lagged behind industry so far that these enormous values below and above the surface were alienated nominally as land passed under monopolistic control, and were diverted from the whole people to which they rightfully belonged; while free citizenship largely gave place to industrial dependence. At first water was neglected as a mere appurtenance to land; and now that it is recognized as the primary resource — that on which life depends, so that it gives value to all the rest — it also is passing under a monopolistic control whereby all citizenship will tend to merge into industrial dependence on centralized power. The situation is one of the gravest ever confronted by any people in the world's history, graver than any ever survived by a nation; and it behooves those possessing the advantage of scientific training and knowledge of principles to give it earnest consideration — and to aid in defining the interrelated duties of the individual, the family and the state in ways tending toward the perpetuity of our people.

A lengthy discussion of this paper closed the meeting.

Meeting of January 18, 1910

At the 440th regular meeting, Dr C. Hart Merriam addressed the society on "Myths of California Indians." The speaker confined himself to the three great groups of central California. Their myths, though they are obviously not homogeneous, have the same personages and characters, viz., the pre-Indian inhabitants who disappeared at the advent of the Indians and the coyote man. The myths quoted referred to the acquisition of fire.

In the discussion Drs Fewkes, Swanton, and Hewitt quoted parallels from the Casa Grande, the Northern Pacific, and the Iroquois, respectively.

Dr Walter Hough followed with a paper on "Incense and Incense Burners." The use of incense in America for religious ceremonies has never been very thoroughly studied. The paper treated in a general way of the diffusion of the materials employed and especially of the apparatus in which incense is burned. The discussion was therefore confined largely to the apparatus found among the cultured tribes of Central America, Mexico, and the southwest United States. In the last area

occur forms which are possibly connected with those in Mexico. The paper also discussed the pipe as an incensario.

In the discussion Dr Casanowicz dwelt on the use of incense, in domestic and social life as well as in the cult and magic, among the ancient nations and quoted passages which hint at a dæmonifuge background of its use. Mr Hewitt pointed out that among the Iroquois incense is sometimes employed to emphasize a petition. Dr Fewkes referred to the fact that among the Hopi Indians all ceremonies opened and closed with a smoke. Its object is to obtain rain; the smoke is to make a cloud, and the rain-god seeing the cloud would send rain.

Meeting of February 1, 1910

At the 441st regular meeting Dr D. S. Lamb read a paper entitled, "Like Father Like Son: A Study in Heredity."

After a general introduction the speaker gave especial consideration to variations and illustrated with many cases taken from Darwin, Reid, Thomson, Woods, Fay, and others. As to reversions he was inclined to think that many so called reversions are simply arrests of development. He thought that the attitude of writers on heredity now in regard to the inheritance of acquired characters is that of a negative. As to the inheritance of disease there is no doubt that a tendency to disease is frequently inherited. The probabilities are that the sperm or ovum is affected by the disease of the parent. He disbelieved in telegony and maternal impressions. A brief statement was made of the more important theories of heredity; he inclined to the Mendelian principle as set forth by Bateson.

In the discussion Mr G. R. Stetson and Dr G. M. Kober pointed out the importance of the problem of heredity in its relation to practical life, especially to education, marriage, public health, and the treatment of criminals and defectives.

Dr J. Walter Fewkes exhibited and commented on some drawings of divinities, altars, and other paraphernalia of worship made by Hopi Indians under his supervision.

Meeting of February 15, 1910

At the 442d regular meeting Miss Rovena Buell, of the American School for Classical Studies at Rome, presented a paper on "Amulets," illustrating her discourse with interesting specimens collected by herself, chiefly in Italy. In the making of this collection of Italian amulets the effort has been to bring together those in modern use and their ancient parallels. The sixty specimens may be roughly divided thus:

1. Prophylactics against the evil eye, having in form some relation to a horn and representing phallicism, Diana worship, and defensive symbolism by means of the hand. Examples — a phallus, a tiger's claw, a boar's tusk, a crab's claw, coral and shell horns, lunar crescents, composite horned animals, hands making the sign of the *fico* and the sign of the horns.

2. Amulets that make the sound of metal, hateful to evil spirits. Examples — bells, clashing disks, and pendants.

3. Grotesque and ocular guards against malevolence. Examples — masks, a humpback, compositions or stones resembling eyes.

4. Preventives and cures by suggestion. Examples — a fossilized trochus or "eye of Santa Lucia," for eye maladies; a limonite concretion with a loose inner particle, "*pietra gravida*," for miscarriage; fossilized corals, "witch stone," for witch spells; carnelian and jasper, "blood stones," for heart disease and hemorrhages; bronze and silver fish, for female sterility; a comb, for caked breasts (caused by the presence of a witch's hair); a dried sea horse, to increase milk in the breasts; a red woolen sack containing bread crumbs, salt, incense, and wheat from a field ripe but unspoiled by the harvester's iron, to guard against the evil eye and witchcraft.

5. Charms pertaining to animals. Examples — badger's hairs, for defense against witches; claw of a paradise bird and a monkey's paw, valid against the evil eye.

6. Roman Catholic amulets. (*a*) Authorized by the church. Examples — the Agnus Dei and medal of St Benedict for divers bodily ills and storms. (*b*) Unauthorized, but popularly endowed with specific virtues. Examples — the medal of the Three Magi, "witch money"; the medal of St Anthony, Hermit, for animal protection; St Joseph's carpenter's rule for child protection; the pig of St Anthony for luck; the medal of St Andrea Abellina for apoplexy; the coin and the key of the Holy Spirit for infantile convulsions.

Votives. Examples — primitive Etruscan figurines of bronze, 800 B.C.; ancient Roman bead incised *HER;* terra cotta heads.

In the discussion following the reading of the paper Dr J. W. Fewkes dwelt on the amulets used by the Indians, while Dr E. L. Morgan referred to those worn by the negroes of Washington, such as dogs' teeth, etc.

Mr George R. Stetson followed with a paper on "Some Social Fallacies."

It was universally accepted that in the millennium of perfect literacy crime would cease. But as mental culture, which by no means includes

moral education, increases our sensibility and self-esteem, it also increases our ability to accumulate wealth, to acquire social position, and thus to escape the consequences of our criminal acts. The fallacies in the practice and administration of the law are made apparent in its discrepancies and defects. Decisions should be made and punishments administered without sentiment and be reformatory in character and purpose, taking into consideration the apparent motive, the circumstances of the deed, and the culture of the perpetrator. A censure was also expressed against such attorneys as maintain their clients' causes *per fas et nefas*, so that many criminals are shielded from the penalty of their crimes and society is thus rendered defenceless, as is proved by statistics. Indiscriminate mercy as well as indiscriminate punishment is criminal. The power of pardon, which is so frequently abused, should under our form of government be permissible only to the sovereign people in their houses of assembly. Absolute human equality is also a fallacy. Organic equality is nowhere found, nor does equality of opportunity produce equality in results. Hence there is also no economic equality. Absolute political, social, and economic equality would not only check our progress in civilization, but also destroy what we have attained. The fallacy of excessive specialization and division of labor results in mental and physical deterioration, in unrest and discontent. Fallacies in history and literature were illustrated by numerous examples. The fallacies of politics, statistics, and legislation likewise came in for their share, concluding with a discussion of the fallacies of the missionary and civilizing enterprises.

Remarks on the paper were made by Drs Folkmar, Casanowicz, and Lamb, and by Mrs Sarah S. James.

Meeting of March 1, 1910

At the 443d regular meeting of the society Mr William H. Babcock presented a paper on "The Two pre-Columbian Norse Visits to America." So far no reliable evidences of Norse visits have been found on American soil, which is, however, not surprising in view of the great lapse of time, the small number of the visitors, and the short duration of their sojourns. The records of the Norse visits are found in the saga of Thorfinn Karlsefin and the nearly identical saga of Eric the Red. The Flattoy book adds to the number of voyages, exaggerating many of the improbable features, and in other respects exhibiting signs of later development and corruption.

The lecturer gave an exhaustive survey and analysis of the sagas, sub-

jecting their geographical, ethnological, historical, and other data to a thorough and searching criticism. In conclusion, he said: "It seems clear that America was discovered. In addition we may be pretty safe in fixing on the neighborhood of the Bay of Fundy as the chief temporary home of Thorfinn's party in Wineland; and in following his route from Greenland thither, and later around Cape Breton into the Gulf of St Lawrence and back to Straamfirth about as given. All else remains still open to discussion and more or less probable conjecture."

Mr A. P. Bourland followed with an address on "The Study of Culture History in German and American Universities." The speaker gave a description of the "institutes" for the study of culture history established at some German universities. Such an institute is equipped with a series of libraries illustrating the development of the human race in all its aspects and directions, such as industry, arts and crafts, politics, jurisprudence, religion, etc. The creator of these institutes was Professor Carl Lamprecht, of Leipsic, whose conception of history is: The study of the development of human life on its economic and social sides.

Meeting of March 15, 1910

At the 444th meeting Dr Elnora C. Folkmar gave a lecture on "Education; Some Examples among Primitive Peoples." The field covered extended from Australia to Africa. The point brought out by the speaker was that among primitive peoples imitation and object lessons, as it were, take the place of methodical and theoretical teaching and training. The children unconsciously imitate the practices and doings of their elders, and thus successively acquire what knowledge they have and need for life.

In the discussion Dr J. R. Swanton called attention to specialization in training among the Pacific coast Indians. Also the Creek Indians have a kind of graded course of study, especially for the medicine men, with some sort of graduation marks by some insignia, such as a fox's skin, the feather of a buzzard or owl. Mr J. N. B. Hewitt pointed out that among the Iroquois education does not stop with childhood. The adults are trained in the knowledge of the tribal laws and customs and in what may be called intertribal law and diplomacy, such as the treaties and pacts entered into by the tribe with other tribes, as also in the elaborate ritual connected with certain tribal events, such as the installation of new chiefs. Dr J. W. Fewkes dwelt on education among the Hopi Indians.

Meeting of March 29, 1910

At the 445th regular meeting the first paper of the evening was on "The White-dog Feast of the Iroquois," by Mr J. N. B. Hewitt.

The white dog sacrifice of the Iroquois is a congeries of independent rites, ritually interrelated at this ceremony, designed to renew through the orenda or immanent magic power of these rites the life powers of living beings, the fauna and flora of nature, which are ebbing away to their extinction by the adversative action of the powers of the winter god. The embodiment of all life is Teharonhiawagon or the "Master of Life." One of the functions of a tutelary is to reveal in a dream what is needful for the restoration of the life force of its possessor. The tutelary of Teharonhiawagon reveals to him in a dream that a victim, primarily a human being but symbolized by a dog in modern times, with an offering of native tobacco, would restore the life forces which he embodies, and by a performance of all the sacred rites of the people at this time would disenchant them and all his aids and expressions — the bodies and beings in nature. These rites therefore seek to compel the return of the sun, the elder brother of man, to the north from his apparent departure southward. The rites performed at this new year ceremony are the rekindling of new fires on the hearths of the lodges, the disenchantment of individuals by passing through the phratrial fires lighted in honor of Teharonhiawagon in the assembly hall, the rechanting of the challenge songs of individual tutelaries to rejuvenate them, the "divining of dreams" for the restoration of the health of individuals, and for the purpose of ascertaining the revealed tutelaries of persons and children who have no tutelaries, the sacrifice of a victim to restore the health of Teharonhiawagon, and finally the performance of the four ceremonies of the tribe, the latter consuming the better part of four days in their performance. Such is in brief the ceremony of the Iroquois Onnonhwaroia or new year festival.

The second paper was presented by the President of the Society, Dr J. Walter Fewkes, on "The Return of the Hopi Sky-god."

The Hopi, said the president, shared with many other tribes of North American Indians, the idea of an annual return in spring time of a sky-god to revivify the earth. This conception, which is widespread among the pueblos, accounts in part for the belief in a future advent of Montezuma, or a fair god, and explains certain ceremonial representations prominent in sun worship. It is so deeply rooted in Hopi myths that we find the return of the sky-god dramatized by a personation of this being accompanied by elaborate rites. From the composite nature of the Hopi ritual, dramatizations of this advent are duplicated, varying somewhat in detail, although remaining the same in general intent.

The sky god is regarded by these Indians as the god of life, who by magic power annually rejuvenates the earth, thus making possible the

germination and growth of crops which furnish the food supply of the Hopi. Some variants of this drama are performed at Walpi in late winter; others in early spring. One of the several presentations mentioned by Dr Fewkes, was the personation of the sky-god which occurs about Easter in a complex drama called the Powamu. The main object of this ceremony is to discharm or disenchant the earth which throughout the winter is supposed to have been controlled by a malevolent being. In this ceremony the sky-god, under the name of "the returning one," is supposed to lead his followers, the clan ancients, or Kachinas to the pueblo, fructifying the earth and thus bringing back the planting and much desired harvest time. Clad in prescribed paraphernalia, the personator of the sky-god, wearing the mask of the sun, enters the pueblo at sunrise from the east, and proceeding to every sacred room and clan house receives the prayers of the owners of the dwellings for abundant crops, giving in return, as symbols of a favorable reply, sprouting corn and beans. As he does so he marks each doorway with sacred meal and bowing to the rising sun beckons to his imaginary followers to bring blessings to the people — blessing always being abundant crops and copious rains.

Certain clans now living in a pueblo near Walpi called Sichumovi, whose ancestors claim to have originally come from Zuni, celebrated the return of their sky-god with slight variations, but with the same intent. The symbolism which distinguished the personators of the sky-god and his followers in this pueblo was brought by clans from Zuni several years ago. Other clans that, according to legends, migrated to Walpi from southern Arizona, perform a characteristic dramatization of the return of their sky-god, the advent of which occurs at the time of the winter solstice. Here the personator of the sky-god represents a mythic bird, whose realistic return is dramatized in the kiva or sacred room. At sunrise on the following morning, accompanied by two corn maidens, the sky-god, no longer a bird personator, distributed seed corn to representatives of the clans of the pueblos.

The ceremonies accompanying the return of the sky-god at the winter solstice are many and complicated. Some of these are designed to disenchant the earth, while others draw to the pueblo the gods of germination. The prayers are said to the plumed serpent, represented by an archaic effigy, to fertilize the earth. A personation of the sky-god carrying the effigy of the plumed serpent, emblematic of lightning, forms one act of the great theatrical ceremony in the month of March; this act is performed at night in the kivas in the presence of the whole population of Walpi and neighboring villages, and represents the return of the sky-god and the

renewal of life on the earth made dormant by the sorcery of evil-minded gods.

Meeting of April 12, 1910

The 446th regular meeting of the Anthropological Society was devoted to the retirement address of the President, Dr J. Walter Fewkes. Dr Fewkes took as the subject of his address "Cave Dwellers of the Old and New World," the full text of which will be published later.

The unity of the human mind, said the speaker, has come to be one of the most fruitful working hypotheses in the science of Culture History. Identities in human culture, under similar climatic and other environmental influences are among the strongest evidences that can be adduced in support of this theory. As human habitations, the most characteristic of racial artefacts, reflect better than all others the effect of environment, the object of the address was to indicate the bearing of a comparative study of cave dwellings from different geographical localities on the theory of mental unity.

A people of nomadic life whose habitations from their mode of life are perishable has little stimulus to construct lasting monuments. Sedentary people on the other hand construct habitations of material that will endure; caves, when available, naturally first afforded shelter for races seeking permanent dwellings.

It is difficult to find a primitive race where human culture has reached any considerable architectural development that has not, at an early cultural period, lived in caves or holes in the ground. Life in caves leads to buildings made of stone or other lasting materials. Permanence of building perpetuates racial traditions, serving as a constant incentive to the construction of architectural monuments.

A study of the distribution of prehistoric cave habitations reveals a marked uniformity of cave dwellings in regions of the earth geographically far apart. Prehistoric cave dwellings of similar form may be traced from China across Asia and on both shores of the Mediterranean, in Mexico, Peru, and the southwestern part of the United States. This distribution corresponds in a measure with that of great prehistoric monuments and follows closely that of the arid region.

Caves as habitations are divided into two types, natural and artificial. The address treated more particularly of the latter, but views of both from the old and new world were shown.

The European natural cave as a shelter is prehistoric, having been abandoned in very early times. The natural caves of Cuba, Hayti, and Porto Rico were, however, inhabited by primitive men of low culture and characteristic speech when America was discovered.

Artificial caves in the Verde Valley, Arizona, were shown to resemble those in Asia Minor, the Crimea, Caucasus mountains, and Canary Islands. Exact counterparts of the "Tent Rocks" or "Cone Dwellings" of the Otowi Canyon, in New Mexico, occur in Cappadocia near Caesarea Mazaca. Views were shown illustrating the resemblances between certain cliff houses in Arizona and monastic establishments in Thessaly. The speaker called attention to an inhabited subterranean village Matmata, in northern Africa, and underground habitations, now deserted, in volcanic cones near Flagstaff, Arizona. The resemblance in architecture of a Berber village in the Sahara to a Hopi pueblo, was incidently considered.

Views were shown of Oriental rock temples, the most striking of which were those of the rock city, Petra, in Syria, which was characterized as the most exceptional cliff ruin in the world.

Meeting of April 26, 1910

The 447th regular meeting of the Anthropological Society was also its 31st annual meeting.

The meeting opened with reading of the minutes of last year's annual meeting. The Secretary then read a report of the activities of the Society during the last session which, briefly stated, was as follows: The Society held 14 meetings with an average attendance of 64 members and guests. At these meetings 20 papers were presented by 16 contributors.

The President, Dr J. Walter Fewkes, commemorated in a few appropriate words the members of the Society who during last session departed this life, viz.: Prof. Enrico Giglioli of the Museum of Florence, Italy, who was an honorary member, and Prof. Simon Newcomb and Mr W. C. Whittemore, active members.

The Society then proceeded to the election of officers, which resulted as follows:

President, J. Walter Fewkes.
Vice-President, George R. Stetson.
Secretary, I. M. Casanowicz.
Treasurer, George C. Maynard.

Additional members of the Board of Managers (besides the former Presidents of the Society who are *ex officio* permanent members of the Board): William H. Babcock, J. N. B. Hewitt, David Hutcheson, Edwin L. Morgan, John R. Swanton.

I. M. Casanowicz,
Secretary.

BOOK REVIEWS

Le Parler populaire des Canadiens-Français ou lexique des canadianismes, acadianismes, anglicismes, américanismes, mots anglais les plus en usage au sein des familles canadiennes et acadiennes françaises, comprenant environ 15,000 mots et expressions. Par N.-É. DIONNE, M.D., LL.D., avec Préface par M. RAOUL DE LA GRASSERIE. Québec: Laflamme et Proulx, 1909. Pp. xxxiv, 671.

Hitherto S. Clapin's *Dictionnaire Canadien-Français*, published in 1895, has been the most extensive lexical record of the folk-speech of the Canadian French. This new lexicon by Dr Dionne, the well-known librarian of the Provincial Assembly of Quebec and Professor of Archeology at Laval University, deserves mention here on account of the numerous words of American Indian origin contained in the Canadian-French language both spoken and written — a topic to which the author of this review and Professor A. M. Elliott have both devoted special monographs. Omitting certain proper names, the chief words listed by Dr Dionne (who does not always indicate their Indian origin), which are derived from the speech of the American Indians north of Mexico, are: *achigan, assinabe, atoca, atosset, attikameg, babiche, bogane, canaouiche, cazagot, chiben, couac, kakawi, machicotée, malachigan, mascouabina, maskoutin, mitasse, mocassin, moniac, moyac, nagane, oka, ouananiche, ouaouaron, ouigouam, pécane, pimbina, saccacomi, sagamité, sagamo, sasaqua, savoyane, squaw, tabagan, tobogane, tuladi*, etc. Although there are a few words cited here that do not appear in the dictionary of Clapin, Dionne does not appear to have paid so much attention as has the former to this element in the vocabulary of Canadian-French, for there are also not a few omissions. The effect of the contact of two such languages as English and French is represented in this volume in innumerable ways of interest to the psychologist and the comparative philologist. Dr Dionne's dictionary, as the sub-title indicates, treats particularly of "Canadianisms, Acadianisms, Anglicisms, Americanisms, etc.," in common use "in the bosom of the family." That such words and expressions (and the tale is by no means exhausted in this book) should number 15,000 testifies alike to the vitality of the French language in Canada and to the wonderful influence of the modern English tongue upon other forms of speech.

ALEXANDER F. CHAMBERLAIN.

Naturwissenschaftliche Wegweiser. Sammlung gemeinverständlicher Darstellungen. Series B. Herausgegeben *von Professor* Dr. KURT LAMPRECHT. *Band 2. Menschenkunde. Ausgewählte Kapitel aus der Naturgeschichte des Menschen.* Von GEORG BUSCHAN, Dr. med. et phil. Mit 3 Tafeln und 80 Textabbildungen. Stuttgart: Verlag von Strecker und Schröder, 1909. Pp. vii, 265. Price M. 2 unbound, M. 2.80 bound.

Typical of German appreciation of science is the statement that of this anthropological handbook some 20,000 copies have already been issued by the publishers. The author, Dr. George Buschan, was a pupil of Ranke, afterwards a physician in a lunatic asylum, then marine health officer in the Imperial service. Besides this, he was for years a reviewer of anthropological literature in the *Archiv für Anthropologie*, and is now the editor of the *Zentralblatt für Anthropologie*, founded by him in 1896. He is the author of a number of valuable ethnological works dealing with Teutonic ethnology, ethno-botany, medical aspects of ethnology, the brain and civilization, etc.; and furnished anthropological and ethnological articles to Meyer's *Konversations-Lexicon*. He is thus most competent for the task he has undertaken, and it is to be hoped that the promise held out of a larger and more technical volume on the same subject will shortly be fulfilled. The present volume (as shown by the title) is not intended to cover the entire anthropological field, as we understand it in America. Apart from a brief section giving a historical sketch of the development of anthropology, and another (briefer) on the classification and division of the science, the "selected chapters from the natural history of man" are devoted to the following topics: General anthropology (Darwinism and its extension; fertilization; inheritance), anthropological methods of investigation (Professor R. Martin's anthropometric apparatus, etc., for travelers is recommended), the external form of man (external characters; stature; weight; growth and its laws; external body-covering; color of skin, hair, eyes), the two sexes, special anthropology (skeleton in general; skull and its soft parts; the soft parts of the head; anthropology of the trunk, limbs, viscera, etc.; anthropology of sexual life; origin of sexes; influence of castration; righthandedness and lefthandedness; the position of man in the animal series and his descent). There are two good indexes, of subjects and authors cited. These American writers and investigators figure in the list: Allen (H.), Bean (B.), Boas, Bowditch, Brinton, Channing (W.), Dana, Gould (B.), Fishberg, Hodge (F. W.), Hrdlička, Talbot (E. S.), West (G. M.), Wilson (D.), not a very extended roll.

Dr. Buschan's classification of the science of Anthropology is this:

A. Physical Anthropology.
   1. General physical anthropology.
   2. Special or systematic anthropology (anthropography and anthropogeny).

B. Ethnic Anthropology.
   1. Ethnography (modern ethnography and paleoethnography).
   2. Ethnology (modern ethnology and paleoethnology).

Ethnography is "descriptive," ethnology "analytic and comparative." Prehistory is regarded as "a branch of general ethnology, tending more and more to break away from anthropology and to become an independent science." Dr Buschan's evolutional position makes man and the anthropoids "cousins," descendants from a common ancestral stock. He rejects the monogenistic theory of Klaatsch, which holds Australia to have been the theater of the change from animal to man. His views on this point are as follows: "I cannot adopt the theory of the origin of the human race at one place only. My opinion is that this must have occurred at several different places on the globe. The regions between the peninsula of Hindustan and Australia, forming, in the Tertiary period, and probably even later, a large continent, may have been one scene of the appearance of man (e. g., for the black race). A second must have been situated in the north of Europe (for the white race), and a third, perhaps, north of the Himalayas, in Central Asia. But these are all conjectures, that still lack proof" (p. 256). The "pigmy races" Dr Buschan regards as not at all examples of "human degeneration" as they have been considered in some quarters, but as "the remains of a primitive race, once spread over the southern regions of Africa and Asia, but now for the most part extinct (except, e. g., the African pigmies), or mixed with other races" (p. 44). In America, as he rightly states, no true pigmy tribe has ever been discovered. Apparently, the author does not mention or discuss the Kollmann theory of the primordial pigmy races and the development from them of the now existing taller races. No race of real giants exists to-day, and none has in all probability ever existed upon the globe. Such giants as are on record from time to time belong to one of three classes, —infantile, acromegalic, and a combination of both. As to the effect upon stature of mountain-residence, climate, town and country, etc., there is still a good deal to be said on both sides (pp. 45–47). Of dwarfs the "pathological" variety occurs much more frequently than the "true dwarfs," who are only "harmonically built human beings, that, in all their proportions, have remained behind normal men and women" (p. 54). As to stature

and genius, Dr Buschan cites Popper, but not Lombroso or Havelock Ellis. Popper not only seeks to correlate genius with short stature, but maintains further that "the longer the trunk of an individual is, in proportion to his lower limbs, the greater his genius." This view, as the author notes, demands confirmation from further and more extensive investigations. In the matter of the development of the body during childhood and youth Dr Buschan seems to largely follow Stratz, in his recognition of the "neutral" (1–7 years), "bisexual" (8–15 years), and "pubertal" (15–20 years). With reference to the point at which the highest limit of growth is reached considerable racial differences are on record, but some of these may be due to imperfect or insufficient observations (p. 78).

The "pinkish" color at birth of individuals of the white race is considered by Dr Buschan, to be not a reversion toward dark-pigmented ancestors, as some ethnologists have maintained, but rather the result of respiration during fetal life and its influence upon the color of the blood (p. 94). In all human races the new-born children are lighter in color than adult individuals. The so-called "Mongolian spots (blue spots)," according to the author, are, perhaps, best interpreted with Bälz, as a peculiarity of the Mongolian race, their occurrence in other races being due to mixture with the Mongolian. This opinion, the reviewer thinks, is not justified by the evidence in hand. Racial smells are touched upon (p. 99) and the unsatisfactory nature of the explanations offered noted. To the consideration of the hair are devoted pages 101–123, treating of its normal and abnormal aspects. The home of the blond variety of European man, Wilser's *Homo europaeus dolichocephalus flavus*, is to be sought in Sweden, whence, even in prehistoric times, it had already made its way as far south as northern Africa. The presence of blondes among the Jews of Palestine is thought to be capable of explanation on the basis of mixture with the Amorites, "a people who were probably of Nordic origin, and therefore cognate with the North-European blonde race (p. 122)." This explanation, however, is not quite satisfactory, and the hypothesis of one sole and singular blond race in prehistoric times is only a last resort. The anthropology of sex is treated on pages 123–150, with a discussion of sexual life, the origin of sex, influence of castration, etc., on pages 229–247. Dr Buschan agrees with those who assign to woman a degree of variability less than that of man and a closer approximation in physical conformation to the child. The psychic differences between the sexes, although still notable on occasion, "tend more and more to disappear with increasing culture" (p. 142). Part of the female

character is evidently to be explained on a natural basis, part also from association with the other sex. In the section on the skull the author, taking note of the recent work of Von Török, etc., cautions against dogmatism in connection with the relations of race and cephalic index, skull-form, and the like (p. 157). Regarding cranial capacity, he holds that "peoples belonging to a low stage of culture possess a much smaller cranial capacity then do the civilized races"; also "long continuing culture increases the brain weight, and correspondingly likewise the cranial capacity" (p. 160). Brachycephalic (and mesocephalic) skulls seem, Dr Buschan thinks, to have generally greater cranial capacity than dolichocephalic. He doubts the inheritability of the skull-types set up by Sergi (p. 108). Microcephaly is looked upon by him, not as an atavism, but as due to some disturbance within the brain itself. From microcephaly is to be distinguished nannocephaly, a normal reduction of the skull in all directions. Walkhoff's theory of the development of the chin in connection with the evolution of articulate speech is rejected (p. 181). The red of the lips is recognized as a specifically human character (p. 193). The difficulty of making the ear serve as a race-mark is noted, and the fact pointed out that the ear of woman is not, as to form, nearer that of the child than is the ear of man. In spite of the already quite numerous investigations of the brains of individuals of various races the results for racial differentiation are altogether meager and unsatisfactory (p. 206). Dr Buschan accepts the view of Klaatsch that the human hand is no specific property of the species, no new thing acquired in the course of human evolution, "primitive inheritance of tertiary ancestors" — the creodonts of the eocene period, the oldest of the land-mammals, indeed, already possessed a hand like that of the primates of to-day, with a well-developed opposable thumb, a character lost by the other mammals. In the discussion of righthandedness and lefthandedness (pp. 248–251) a physiological (blood-supply to opposite brain hemisphere) solution of the problem is favored. With respect to the assumption of the upright position Dr Buschan inclines toward the "climbing" theory of Klaatsch.

For the ground covered this book is an interesting and informing manual of physical anthropology.

ALEXANDER F. CHAMBERLAIN.

Dictionary of American Indian Place and Proper Names in New England; with many Interpretations, etc. By R. A. DOUGLAS-LITHGOW. Salem, 1909. 8°, pp. xxi, 400.

This gazetteer of some six or seven hundred names and variants is without question the most comprehensive and satisfactory compendium of

New England Indian local and personal names that has yet appeared. Without claiming any philologic knowledge and very sensibly declining to attempt the profitless task of etymologic analysis, the author has brought together in concise grouping every important form and every notable interpretation, together with the reference to the authority, leaving the reader free to sift the evidence for himself. Unlike some others who have worked in the same field he does not go to Virginia or Lake Superior for his etymologies or imagine some improbable incident to support an impossible rendering. It cannot be too strongly emphasized that Indian etymologies depend often upon such minute or even trivial circumstances or such nice phonetic distinctions that they are seldom of value except when obtained by a trained student of the language from the recognized tribal authorities. Even when the language has been fairly well preserved, which is rarely the case in the eastern states, we can seldom be sure that the Indian form has been correctly recorded. Thus for Neutaconkanut, Dr Douglas-Lithgow gives sixty spellings, while for Winnepesaukee, to which he devotes a special chapter, he tabulates one hundred and thirty-two. When we find Woonsocket given by one writer as meaning "deep descent" and by another as "pond on a hill," or Willimantic variously claimed as "good lookout," "cedar swamp," and "where it winds about a bold hill" it is evident that one guess is nearly as good as another, and when we find Neponset wavering between "good fall," and "he walks in his sleep" we are justified in refusing to follow either, and in confining ourselves to the safer statement "meaning uncertain."

The place names of each state are treated separately. There is an extended list of general names with biographic data, a very good descriptive list of New England tribes and bands, and a linguistic appendix. In the tribial list *netops* is not a band name, but means simply "friends," in this case the friendly Sogkonate; the Wabinga of Jefferson are the well known Wappinger, distinct from the Mahican; while in the Zoquageers we may recognize the Sokoki. The print and binding are excellent.

JAMES MOONEY.

Source Book for Social Origins: Ethnological Materials, Psychological Standpoint, Classified and Annotated Bibliographies for the Interpretation of Savage Society. By WILLIAM I. THOMAS. Chicago: The University of Chicago Press; London: T. Fisher Unwin, 1909. 8°, pp. 932. ($4.77 postpaid.)

This is the first work dealing with the social condition of primitive races that has given the reviewer real satisfaction. "It had its origin,"

Professor Thomas informs us, "in the necessities of the classroom," and it professes to be not so much an original work as an introduction to the literature of the subject under discussion. From this point of view alone Professor Thomas has done anthropologists, particularly American anthropologists, an immense service by bringing their work before students in other fields who are still in the habit of quoting Morgan's Ancient Society as embodying the very latest results in anthropological investigation in America, and whose supplementary reading does not seem to extend much beyond Dobrizhoffer, Schoolcraft, Bancroft, and one or two works on the natives of Australia.

Professor Thomas divides his subject into seven parts: (1) The Relation of Society to Geographic and Economic Environment; (2) Mental Life and Education; (3) Invention and Technology; (4) Sex and Marriage; (5) Art, Ornament, and Decoration; (6) Magic, Religion, Myth; (7) Social Organization, Morals, The State. Each of these consists of of from five to ten selections from leading writers in the branch under discussion, a few pages of comment, and an extensive bibliography. Lengthy supplementary bibliographies covering the various geographical areas of the world, and two excellent indices close the work. These bibliographies alone show an immense amount of painstaking research, and although marred by some unfortunate errors in proofreading, by themselves constitute a sufficient reason why the work should be in the possession of every anthropologist. An analysis of the selections entering into these show forty-five from F. Ratzel; five from A. W. Howitt; four from Herbert Spencer; three from Spencer and Gillen; two each from O. T. Mason, Franz Boas, W. I. Thomas, A. Lane-Fox Pitt-Rivers, E. B. Tylor, Edward Westermarck, and L. H. Morgan; and one each from Ellen C. Semple, W J McGee, William I. Sumner, H. Ling Roth, Karl Bücher, W. H. R. Rivers, Ernest Crawley, A. C. Haddon, W. H. Holmes, Ernest Grosse, R. Wallaschek, Yijö Hirn, J. G. Frazer, J. W. Powell, Hutton Webster, and William Jones. Considering the purpose of the work probably most would agree that the selections are well made, the names of all but a few of the contributors being familiar to every working anthropologist. Moreover the relative value which Professor Thomas gives these in his comments is about such as an anthropologist would place upon them, setting up as he does as standard authorities such papers as Boas' "Mind of Primitive man," and the "Algonkin Manitou" of the lamented William Jones, to whom, by the way, the work under consideration is dedicated.

To illustrate the common sense attitude which Professor Thomas main-

tains in discussing the material thus gathered together by him I cannot refrain from reproducing the following paragraphs from his introduction, hoping they may have a wide reading.

"Finally, I wish to warn the student to be suspicious of what may be called the particularistic explanation of social change. Some years ago, when it was the habit to explain everything in terms of 'the survival of the fittest,' an ingenious German scholar put forth the theory that the thick crania of the Australians were due to the fact that the men treated the women with such violence as to break all the thin heads, thus leaving only thick-headed women to reproduce. A still more ingenious German offered as an explanation of the origin of the practice of circumcision the desire of certain tribes to assure themselves that there should be no fraud in the collection of trophies in battle. This was assured by first cicumcising all the males of one's own tribe. Under these circumstances certitude was secured that any foreskins brought in after battle with uncircumcised enemies could not have been secured from the slain of one's own party. Lippert, the great culture-historian, has argued that the presence or absence of the milk of domestic animals has sealed the fate of the different races, pointing out that no race without milk has ever risen to a high level of culture. He is also responsible for the suggestion that man took the idea of a mill for grinding, with its upper and nether millstones, from the upper and lower molars in his own mouth. Pitt-Rivers says that the idea of a large boat might have been suggested in time of floods, when houses floated down the rivers before the eyes of men. I think that even the eminent ethnologists Mason and McGee err in this respect when they suggest the one that 'the hawks taught men to catch fish, the spiders and caterpillars to spin, the hornet to make paper, and the cray-fish to work in clay,' and the other that plants and animals were first domesticated in the desert rather than in humid areas, because in unwatered regions plants, animals, and men were more in need of one another and a greater tolerance and helpfulness. In fact a variorum edition of the theories of the origins of culture would be as interesting as Mr Furness' variorum edition of Hamlet, which, while it was not, I believe, prepared with that in view, is yet one of our great storehouses of amusement.

"Some of these theories are simply imaginative and absurd, and others are illustrations of the too particularistic. Doubtless milk is a very precious possession, but so also is iron. No race ever attained a considerable level of culture in the absence of iron. And it would be possible to name a number of things which races of high culture possess

and races of low culture do not possess. The idea of crushing, pounding, and rubbing is much too general to warrant us in saying that the idea of the mill is derived from a human mouth. When man has once a floating log, bark boat, or raft, he can enlarge it without assistance from floating houses. The growth of plant life and the idea of particular attention to it are too general to depend on any particular kind of accident, or on a desert environment. Animals follow the camp for food, they are caught alive in traps, and the young ones are kept as pets; and this would happen if there were no desert regions. Two of Herbert Spencer's great and gross errors of this character — the derivation of all the learned and artistic occupations (even that of the dancer) from the medicine-man, and the assumption that ghost-worship is the origin of all spirit belief and worship (even of the worship of animals and plants) — I have considered in Parts II and VI of this volume.

"The error of the particularistic method lies in overlooking the fact that the mind employs the principle of abstraction — sees general principles behind details — and that the precise detail with which the process of abstraction begins cannot in all cases be posited or determined. Thus the use of poison was certainly suggested to man by the occurrence of poison in nature, and in some crisis it occurred to man to use poison for the purpose of killing. And since the snake is the most conspicuous user of poison in nature it has usually been said that man gets his idea from the snake, and that the poisoned arrow-point is copied from the tooth of the poisonous snake. I have no doubt that this thing frequently happened in this way, but there are also various other poisons in nature. The deadly curare with which the Guiana Indian tips his tiny arrows is a vegetable product. The Bushmen use animal, vegetable, and mineral poisons, and a mixture of all of them, and the Hottentots manufacture poisons from the entrails of certain insects and from putrefying flesh. In short, assuming poison in nature and the arrow in the hands of man, we can assume the development of a poisoned arrow-point even if there had been no such thing as an envenomed serpent's tooth."

By primitive people we commonly find that explanation of the existence of an object or institution accepted which is the cleverest, and correspondingly many *students* of primitive people appear to think it their duty to suggest an explanation more striking or ingenious than has yet appeared, apparently with the idea that the most ingenious explanation is necessarily the truest. Such single concrete explanations, being more readily grasped, do indeed prove especially attractive to the young and to persons with undeveloped and untrained intellects, and it is therefore

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most important that this attraction be counteracted promptly in works like the present intended for beginners and as school or college text-books, in which capacity we hope to see it extensively employed.

JOHN R. SWANTON.

Yana Texts. By EDWARD SAPIR. *Together with Yana Myths* collected by ROLAND B. DIXON. University of California Publications in American Archaeology and Ethnology, Vol. 9, No. 1. Berkeley, California: University Press, February, 1910. 8°, 235 pp.

In 1903, at a time when a record of American Indian literature was still somewhat of a novelty, Jeremiah Curtin, widely known as the translator of Quo Vadis, published a volume entitled "Creation Myths of Primitive America." This work contains twenty-two mythological tales obtained from little known and nearly extinct tribes of North Central California, the first nine from the Wintun, and the remaining thirteen from the Yana Indians. Further than this no information is given concerning the collection of myths; names and narrators and even localities are nowhere to be found. The book contains no record of Indian speech with the exception of a few names, spelled without the use of diacritical signs and not accompanied by etymologies. Curtin's tales are impressive, and the scientifically minded among the many readers of his book must inevitably have wished that more, and more exactly and completely annotated material, might be collected from these little known tribes ere too late, and that a record might be made in the Indian tongue as well as in translation.

Dixon and Kroeber in their "Native Languages of California"[1] make it seem even more important that a record of Yana be made. These authors represent the Yana language as anomalous, showing no structural affinities with neighboring languages of the "Central California type" such as Wintun and Maidu, or indeed with any tongue of California. Yana stands out on their linguistic map of California like the white spot representing Christianity on the missionary's inky chart of of China.

Dr Kroeber's "Indian Myths of South Central California"[2] only partially satisfied us by stating after reviewing Curtin's myths, "Dr Dixon has collected myths among the Yana, but they are as yet unpublished."

The rescuing of Yana language and lore for the future has fallen to Dr Edward Sapir, and in the volume cited above he has performed this

[1] *American Anthropologist*, Jan.–Mar., 1903, pp. 1–26.
[2] *Univ. Calif. Publ. Am. Arch. and Ethn. 4*, 1907, pp. 179.

task in a very creditable manner. There are 195 octavo pages of Dr Sapir's texts accompanied by interlinear and free translations and notes. Three myths and a translation of Curtin's "The Finding of Fire," 45 pages, are in the *Garī''i* or Northern dialect obtained near Round Mountain, Shasta County. There are also 25 pages of short narratives and accounts of customs in this dialect. Nine myths, 124 pages, are in the *Gaťᶜā''i* or Central dialect collected in the neighborhood of Redding, Shasta County. The Southern dialect of Yana is discovered to be extinct, although it was the childhood language of one of the informants. No native name is given for the Southern dialect. Dr Sapir's informants were only two in number: Betty Brown (*Ts!ī'daimiya*), since deceased, for the Northern; Sam Baťwĭ for the Central. For linguistic purposes a record of the speech of several individuals speaking each dialect ought to have been made.

To Dr Sapir's material are added fifteen myths, 36 pages, obtained by Dr R. B. Dixon, only two of these being accompanied by Indian texts of which Dr Sapir has slightly changed the orthography to conform with that of his own text — generally speaking a rather dangerous procedure. Like Dr Sapir's material that of Dr Dixon was obtained from both Northern and Central sources, his informants having been Round Mountain Jack, since deceased, and Sam Baťwĭ.

Information was gained by Dr Sapir to the effect that Curtin's myths were collected from Northern and Central sources also, his two informants, since deceased, having been Round Mountain Jack and "The Governor," who resided near Round Mountain and Redding respectively.

The rescuing was performed none too soon. Seven or eight persons know Northern Yana (p. 129, footnote), while of the four or five individuals who speak the Central dialect only one, Sam Baťwĭ, knows any myths (p. 6, footnote); and Southern Yana is extinct.

There appears to be some incongruity in the use of macrons and circumflexes. We read:

a short as in Ger. Mann
ā long as in Ger. Bahn
e short and open as in Eng. met
ê long and open as in Fr. fête.
o short and open as in Ger. dort
ô long and open as in Eng. saw.
i short and open as in Eng. it
ĭ close and open as in Eng. eat, not necessarily long unless accented.
u short and open as in Eng. put

ū close as in Eng. spoon, generally long.

Is it advisable to use the circumflex to indicate vowel openness or the macron to indicate anything other than vowel length, and are the usages of macrons and circumflexes above consistent?

Quoting again, "Superior vowels (^{a}, ^{i}, ^{u}, rarely ^{e}, and ^{o}) are whispered and accompanied by aspiration of preceding consonant. Thus frequently syllables consisting of voiced consonant and vowel are written superior to indicate whispering, e. g. ^{ya}, ^{li}" (p. 4). Whispering is produced by a peculiar narrowing of the glottis; we should expect in a language of the phonetic character of Yana that such sounds are merely unvoiced, and not whispered. The sounds written thus occur very rarely in the text, it seems invariably in auslaut and frequently in connection with a glottal stop. Thus (p. 1) dīla'u^{i}, die; īrā'm^{i}, grandmother. On page 5 UNVOICED w is mentioned as occurring as a syllabic final, and UNVOICED l, m, and n are spoken of as occurring generally before a glottal stop. However, instead of voiceless y we read "whispered y" (p. 5). Furthermore, words pronounced in a whisper are designated by footnotes on pp. 16, 26 (twice), 81 and 97, which seems to show that the recorder himself recognized sounds as distinct from those which he writes by superior letters.

It is not stated which element of Yana diphthongs bears the stress accent (p. 5). In the text the stress accents appear between and separating the two elements of the diphthong. The principle employed seems to be to write the accent after the more open (more stressed?) element of the diphthong.

The glottal stop is indicated by an italic variant form of Greek epsilon written superior. It would be more reasonable to write superior Hebrew aleph or some other letter which originally has or had this sound-value. Few or no arguments can be produced in favor of using the superior variant epsilon, although it is coming into vogue with several Americanists. Its writing requires two strokes; and its printing, a type specially founded. It is perfectly confusable with the $^{\varepsilon}$ superior of the Ass. Phon. Int. The ordinary printer has to set it up as an e superior, which leads to the wildest confusion. It is wider than the apostrophe and thus sprawls the word. It is unintelligible to the lay reader, while the apostrophe when used in this function is by such not pronounced at all, and "ils sont peux qui savent le différence." The well-established employment of the apostrophe to represent the glottal stop can hardly be improved upon — it is a single stroke, and a universally obtainable character for an almost universally frequent sound: *Le Maître Phonétique* and also

Professor Hempl suggest slight modifications of the apostrophe. It has been suggested that the use of the apostrophe be restricted to designating glottal action synchronous with the buccal, while epsilon is employed to indicate glottal action immediately following the buccal. Would this not be employing two totally distinct characters for one sound, namely, the glottal stop? It should be noted, moreover, in this connection, that German phoneticists have distinguished and clearly described not two, but six or more distinct varieties of glottally affected buccal stops in the languages of Europe alone. Now would it not be consistent with the epsilon system to represent each of these six or more varieties by a different superior character? Is there any one language in which more than one of the many varieties of glottalized mouth-stops occur? Would it not be sufficient for all practical purposes to describe the production of the glottally modified stops in the phonetic key? Should it, however, seem necessary to draw nice distinctions, the apostrophe is capable of many variations by slightly changing its size, shape, or position. Greater than the need of expressing such subtle differences would seem to be that of distinguishing orthographically between the glottal stop of these mouth-glottis consonantal diphthongs and the glottal stop as it appears in vowel opening, closing, breaking, doubling, and elsewhere. The employment of two or three slightly variant forms of the apostrophe to indicate different degrees of sonority or force of glottal stops would perhaps be a very practical device.[1]

We are glad to see no special characters employed to designate velars of the sort that appear only before back vowels.

The "intermediate" stops, e. g. sounds lying acoustically between b and p, d and t, etc., respectively, are expressed by the roman sonant letters. Thus the orthography is b, d, g, for example, where other recorders write p, t, k. It is high time that some uniformity be arrived at with regard to the writing of these sounds. To illustrate prevalent inconsistency compare Boas' versus Hewitt's spelling of Iroquois (*Putnam Anniversary Volume*, 1909, pp. 431–5).

J has its French sound; c equals English sh. Both of these values will eventually have to be changed to conform to extra United States Americanist usage.

"Fortes" occur and are not written as choked stops, although just how they differ from the latter is not made clear.

Those students who do not believe in burdening their texts with

[1] The superior comma is called apostrophe rather than smooth breathing since it is improbable that the Greek *spiritus lenis* indicated a glottal stop.

orthographic niceties will hardly look with favor upon the occasional use of s· to represent a sound vaguely defined as midway between English s and sh. Would not either s or sh have been sufficient? A similar contingency arises in recording Ute, where s suffices. It should also be remarked that z· does not appear at all.

Unvoiced or voiceless *w*, *l*, *m*, *n*, are indicated by italicizing; in italic words they are roman. Here we have the ugly practice of font mixing, which, in truth, is not always easily avoidable. The use of the symbols of the Ass. Phon. Int. for these sounds would be a great improvement.

It is as strange to read that h and x are variants of one sound as that k and p were variants of one sound. The difficulty of studying posterior fricatives is granted. However, it would be desirable to determine whether this sound is a larynx- or a mouth-sound.

Superior w expresses a glide commencing certain back vowels. Inasmuch as superior type are otherwise used to represent "whispered" vowels, this is confusing. The same might be said of superior n used to indicate nasalization, which occurs only in interjections.

Just what is meant by ll, nn, mm, is not clear. It is doubtful whether in a purely phonetic system of writing one has a right to double a letter to indicate length. Would not the same system which writes long l as ll have to express long a by aa, and could p with pre-plosive hold be represented by pp?

The acute accent placed after a vowel indicates vowel or syllable stress, the grave accent secondary stress. The standard " of our dictionaries seems preferable for secondary stress accent. Musical pitch- or leap-accent is in no wise indicated nor even mentioned.

Notwithstanding these criticisms the texts are probably among the most accurately written that have appeared.

Judging from Dr Dixon's outlines of Wintun grammar (*Putnam Anniversary Volume*, 1909), the individual sounds of Yana are not very different from those of Wintun.

The division of "words" or "terms" into syllables or particles is not indicated, — and perhaps this may prevent mistakes. The device of placing the translation of the word directly beneath it, familiar as that of school "ponies" and employed in most interlinear Indian texts, is here abandoned. The Indian words all stand the same distance apart, being separated by 2-m quads. The English words are separated uniformly by single spaces. Vertical bars break the English translation into words or groups of words, and thus meaning-equivalency is traced. This system

doubtless spares the type-setter some labor and thus may bring about saving in expense. No space is saved, however, since two lines are always left for the translation in case it occupy more than one line. But whatever saving there may be is much more than offset by the strain on the eyesight occasioned by connecting word and translation, which is even greater than in the alphabetic vocabulary system. If the texts were used in schools the students would probably do what we all feel like doing — would draw lines from Indian word to translation.

Many interesting grammatical features are apparent even in a cursory reading. It is to be hoped that these texts have been supplemented by copious material for grammatical data not contained in them, that a Yana grammar will be brought out by the author in the near future.

Each text is followed by a very readable English translation. Brief outlines or abstracts of the myth-texts ought also to have been given. Abstracts greatly facilitate myth-comparison, and are best made by the recorder himself. They should not be omitted even when texts are collected primarily as a basis for language study. For, although for linguistic purposes the myth ought to be recorded in full, to meet the needs of comparative mythology neither vernacular, style, nor even characters are important; incidents alone are significant. And it is imperative that these incidents be presented in the briefest form possible.

It is generally understood that Dr R. B. Dixon who is making a most extended and thorough study of the tribes of North Central California will in the near future adequately discuss Yana mythology in connection with the other mythologies of that region.

JOHN P. HARRINGTON.

The People of India. By SIR HERBERT RISLEY. Calcutta: Thacker, Spink & Co.; London: W. Thacker & Co., 1908. 8°, pp. 289 + clxxxix, 24 pls., map.

Anthropologists are indebted to Sir Herbert Risley for the elucidation of that most complex problem in ethnic classification, the people of India, who at the last census were credited with 157 distinct languages, 22 of which are each spoken by over a million people. In this enclave are found not only more languages than are spoken in the entire Western Hemisphere, but widely diverse types of men isolated by the remarkable environmental conditions which have protected India from contact with exterior populations. India comprises three main regions — the Himalaya, where there is an admixture of Mongolian blood; the Middle Land, the river plains of northern India taken by the Aryans; and the Deccan,

which from the earliest dawn of history has been the home of the Dravidians, the oldest of the Indian races. The problem of the races and peoples might have been simple but from the fact that, due to religious influences, there has been a constant flux in which tribes have merged into castes, losing absolutely their identity. This is accomplished, as Sir Herbert interestingly points out, by the aid of fictions by which it is sought to accredit to the tribe an origin from the ruling class of India and the matter is arranged through the good offices of Brahman priests. Heretofore the efforts to classify the Indian peoples were confined to the data afforded by language, but obviously the difficulty of castes prevented satisfactory conclusions. During the 1900 census Sir Herbert introduced the classification by physical types and the results have brought order from chaos. The abundant data secured enable us to divide the people of the Indian Empire into seven main physical types, the distribution of which is plotted on a map bound with the volume.

"Counting from the western frontier of India, we may determine the following distinctive types:

"I. The Turko-Iranian type, represented by Baloch, Brahui, and Afghans of the Baluchistan Agency and the northwest Frontier Province; probably formed by a fusion of Turki and Persian elements in which the former predominate. Stature above mean; complexion fair; eyes mostly dark, but occasionally grey; hair on face plentiful; head broad; nose moderately narrow, prominent, and very long.

"II. The Indo-Aryan type, occupying the Punjab, Rajputana, and Kashmir, and having as its characteristic members the Rajputs, Khatris, and Jats. This type approaches most closely to that ascribed to the traditional Aryan colonists of India. The stature is mostly tall; complexion fair; eyes dark; hair on face plentiful; head long; nose narrow and prominent, but not specially long.

"III. The Scytho-Dravidian type of western India, comprising the Maratha Brahmas, Kunbis, and the Coorgs; probably formed by a mixture of Scythian and Dravidian elements, the former predominating in the higher groups, the latter in the lower. The head is broad; complexion fair; hair on face rather scanty; stature medium; nose moderately fine and not conspicuously long.

"IV. The Aryo-Dravidian type found in the United Provinces of Agra and Oudh, in parts of Rajputana, in Bihar and Ceylon, and represented in its upper strata by the Hindustani Brahma and in its lower by Chamar. Probably the result of the intermixture, in varying proportions, of the Indo-Aryan and Dravidian types, the former element pre-

dominating in the lower groups and the latter in the higher. The head-form is long with a tendency to medium; the complexion varies from lightish brown to black; the nose ranges from medium to broad, being always broader than among the Indo-Aryans; the stature is lower than in the latter group, and is usually below the average by the scale given above.

"V. The Mongolo-Dravidian type of Lower Bengal and Orissa, comprising the Bengal Brahmans and Kayasths, the Muhammadans of eastern Bengal, and other groups peculiar to this part of India. Probably a blend of Dravidian and Mongoloid elements with a strain of Indo-Aryan blood in the higher groups. The head is broad; complexion dark; hair on face usually plentiful; stature medium; nose medium with a tendency to broad.

"VI. The Mongoloid type of the Himalayas, Nepal, Assam, and Burma, represented by the Kanets of Lahoul and Kulu, the Pepchas of Darjeeling, the Limbus, Murmis and Gurungs of Nepal, the Bodo of Assam, and the Burmese. The head is broad; complexion dark with a yellowish tinge; hair on face scanty; stature small or below average; nose fine to broad; face characteristically flat; eyelids often oblique.

"VII. The Dravidian type extending from Ceylon to the valley of the Ganges and pervading the whole of Madras, Hyderabad, the Central Provinces, most of Central India, and Chutia Nagpur. Its most characteristic representatives are the Paniyans of the South Indian hills and the Santals of Chutia Nagpur. Probably the original type of the population of India, now modified to a varying extent by the admixture of Aryan, Scythian, and Mongoloid elements. In typical specimens the stature is short or below mean; the complexion very dark, approaching black; hair plentiful with an occasional tendency to curl; eyes dark; head long; nose very broad, sometimes depressed at the root, but not so as to make the face appear flat."

These types are more exhaustively discussed in the ensuing pages of the first chapter.

In the second chapter Sir Herbert takes up the social divisions, which are either tribes or castes and in turn are further subdivided with reference to matrimonial considerations. He gives the types of tribes, defines caste, and shows the conversion of tribes into castes and the types which are thus formed. There is also here an extended discussion of totemism.

The remaining chapters are devoted to the vexed question of caste and comprise the most thorough treatment of this subject extant. The appendices are entitled: "Caste in Proverbs and Popular Sayings";

"Social Statistics"; "Maps Showing the Distribution of Castes"; "Anthropometric Data"; "Laws on Infant Marriage"; "Modern Theories of Caste"; "Discussion of Kulin Polygamy"; and Appendix VIII, on the "Santal and Munda Tribes."

Sir Herbert's treatment of the subject is lucid and impartial and has the commendation of Hindu scholars. The general reader may gather from his book much that is interesting and valuable concerning the workings of the Hindu mind expressed in proverbs and sayings of the people, while to the student of anthropology the work is the best that has appeared in the voluminous literature on India.

WALTER HOUGH.

Shellmounds of the San Francisco Bay Region. By N. C. NELSON. University of California Publications in American Archaeology and Ethnology, Vol. 7, No. 4, pp. 309–348. Berkeley: University Press, 1909.

Mr Nelson's paper covers in a general way the archeological survey of the shellmounds of the San Franciso Bay region completed by him in 1908 under the general direction of Professor J. C. Merriam who for some years collected data on these remains. The result of this study includes a review of Professor Merriam's data with the addition of much information that is new. The author, however, considers it only a preliminary report as but 3 of the 425 shellmounds examined have been carefully explored. The mounds are confined to a narrow belt around the open waters of the bay and grade off landward into earth mounds of more or less artificial character. An interesting geological feature is the partial submergence of land around the bay which has taken place since some of the deposits were begun, for in some of the mounds the lower layers of shells are below sea level. This subsidence is of such magnitude as to render it probable that a number of mounds have been wholly submerged.

The mounds are generally oblong or oval in outline, with smooth slopes, The longer axis is usually parallel to the shore line. Of late years much of the material composing these heaps has been removed for various purposes. and the artifacts scattered among individual curio seekers. Exclusive of the results secured by the systematic work of the University of California, these collections are small and are, probably, in no case representative of the culture of the region. Usually the mounds lie quite close to open waters, but in a few instances they are some distance back from the present shore. One mound lies nearly one and one-fourth miles from the shore and at an approximate elevation of 225 feet. Another lies over two miles inland and is 125 feet above sea level. Both are very large and probably of relatively

great age. Mr Nelson is of the opinion that the mounds in general are fully as ancient as other known American shell deposits.

The soft-shell clam and soft-shell mussel are common to all the mounds and usually make up the bulk of the material, but the hard shelled clam and mussel, the cockle, abalone, and various small univalves occur. Mixed with the shells is a large percentage of ashes and charcoal and varying quantities of rock and waterworn pebbles. Occasionally there seems also to have been added more or less earth. Bones of a large number of quadrupeds and birds are mixed with the shells but these occur more commonly in the upper layers.

Artifacts and other indications of industrial life are found at all depths but are less abundant in the earlier layers. The implements of later times show a greater degree of specification and perfection of workmanship than those from the older layers, although the change in progress does not appear so clear and marked as one would naturally expect. Spear and arrow points, mortars and pestles, hammer stones, and roughly grooved sinkers were found at all levels in many of the deposits. Highly polished and graceful bone awls, "charm stones," delicately worked stone pipes, bone whistles, stone labrets, certain shell beads and pendants, all appear to be confined to the upper layers of at least some of the largest mounds. Grooved sinkers in great abundance were found in some deposits, while in others close by they were apparently absent. No potsherds were found in any of the mounds. Human remains (burials) were in nearly all the large mounds. The skeletons were in various positions, singly or in groups of two or more, none, however, were found in a sitting posture. The great majority were not accompanied by artifacts although a few pipes and weapons occurred with the remains of men, and a mortar, pestle, and awls with the women. The remains of children were almost always accompanied by beads and trinkets. No careful study of the osteological remains has been made. In conclusion Mr Nelson finds it difficult to reject the opinion that the original migrants who began these refuse heaps were of the same race if not the direct ancestors of the historic Indians of this region. He thinks it possible, however, that a careful study of the remains may lead to a different view. The paper is illustrated by half tone reproductions of eight photographs of the more prominent shellheaps and a large map showing the location of all the shell heaps and minor camp sites of the region. CHARLES C. WILLOUGHBY.

The Ellis Landing Shellmound. By N. C. NELSON. University of California Publications in American Archaeology and Ethnology, Vol. 7, No. 5, pp. 357–426, Berkeley, 1910.

The Ellis Landing shellmound furnishes incontestible evidence of having survived a considerable subsidence of the San Francisco Bay country which

occurred subsequent to the arrival of primitive men in that region. For this reason it was singled out for special investigation. Excavations were carried on in 1906 by Mr Nelson, and during the following year when the mound material was removed for grading purposes Mr Nelson was present for the purpose of collecting data and the artifacts and skeletons which were brought to light during the excavations. The mound lies in the marsh which fringes a greater portion of the bay shore. About half of it has been destroyed by wave action. This erosion is of recent occurrence, for twenty years ago the refuse heap was not only intact but was protected from the waters of the bay by a strip of marsh 30 to 40 feet wide. The distance eroded in this short time is approximately 200 feet. The base of the mound, now submerged, is about 460 feet by 245 feet. The outline is an irregular oval. The greatest height of the heap was 17 feet above marsh level and its greatest depth below the same level was nearly 16 feet. The vertical distance from its highest point to the bottom immediately below was about 28 feet 6 inches. On a volume basis Mr Nelson estimates its age to be about 3500 years. The mound was used from the beginning as a burial place and probably also as a residence site, there being several house pits in a good state of preservation upon it when first examined. The excavation of 1906 consisted of a trench 108 feet in length and 6 feet wide. This was dug to about six inches below the marsh level, which was as far as the ground waters would permit. The wall was kept straight and perpendicular and its special and characteristic features were charted as the work progressed. The number of artifacts recovered was 78. Besides a large number of animal bones, 16 human skeletons were found, most of them complete and in comparatively good condition. During the removal of the upper portion of the mound material for grading purposes 126 human skeletons were uncovered, and about 265 artifacts were secured.

For the pupose of studying the deposits below water line a shaft was sunk, the water being removed by pumping. The yield of artifacts in this shaft was 38 in number. Scattered fragments of the skeletons of two individuals were found 7 feet below high tide, and two nearly complete skeletons were recovered from near the bottom. No animal bones were found in the lower 8 feet of the shell deposit. The mound was made up mostly of clam and mussel shells, but oyster, cockle, haliotis, and a few other species were found. The lower portion of the mound was composed principally of mussel shells, and only in the upper 8 feet were clam shells at all common. Of the artifacts secured the various well recognized types are mentioned in groups, and only the new forms receive specific attention. Perhaps the most evenly distributed objects were mortars and pestles. They occurred in fragmen-

tary condition at all levels, and only a few unbroken specimens were obtained. In size the mortars ranged from about three inches to eighteen inches in diameter, and the pestles have the same relative variation. Hammer stones, rubbing stones, perforated and grooved sinkers were obtained. More than 70 "charm stones" (pear-shaped pendants) were secured showing the usual variety of forms, these specimens being found only in the upper levels of the deposit. Blades and projectile points, well chipped from chert and obsidian, occurred from the top to the bottom of the mound. Of the few tubular steatite pipes recovered, two of the most interesting were found with a painted skeleton. Bone awls and needles occurred more commonly in the upper part of the mound. Among other bone objects were spatula-shaped implements, notched bones, whistles, and a few other forms, also a few bone and shell ornaments.

Mr Nelson concludes that the material culture of the builders of the mound, represented by a broken chain of evidence only, seems to show that the knowledge and dexterity of the people increased as time went on. The first inhabitants possessed roughly made stone implements; they prepared vegetable food; they knew the use of fire; they painted and buried their dead. The last people to dwell on the mound had well made stone implements, a variety of bone tools, and several forms of ornaments of bone and shell which were similar to those of the historic Indians of central California. The paper is well illustrated by half-tone photographs of the mound and of the artifacts and osteological remains, and by well executed maps, ground plans, and vertical sections.

This publication forms a valuable contribution to the archeological literature of California, and can but prove an incentive to more painstaking and thorough work in the shell mounds of America generally. Perhaps no class of archeological remains furnishes a more consecutive record of the people of a given locality than some of our more extensive shellheaps when systematically and carefully explored.

CHARLES C. WILLOUGHBY.

Ethnologica im Auftrage des Vereins zur Förderung des stadtischen Rautenstrauch-Joest-Museums für Völkerkunde in Cöln. Herausgegeben von DR. W. FOY, Direktor des Museums. I, Leipzig, 1909. Verlag von Karl W. Hiersemann. 8°, vii, 282 pp.

Ethnologica, which is to be published in yearly numbers as the organ of the Rautenstrauch-Joest Ethnological Museum in Cologne, is devoted to the culture-historical method of observation and treatment of museum material as opposed to mere catalogue-description. The "culture-historical" point

of view both in large and in small things will dominate, with due attention to comparative ethnology of the true scientific kind. The editor is the competent head of the Museum, Dr W. Foy, who furnishes the first article, a well-illustrated historical account of the Museum, its various departments, activities, plans, etc. (pp. 1–70, 19 figs.).

The beginnings of the Museum go back to 1899, but the new building was formally opened in 1906. Its 23,400 specimens in diverse collections make it "the largest ethnological museum in western and southern Germany," while it is also "the most modern ethnological museum in Europe, and at the same time almost the only one existing independently and free from all other collections, unembarrassed by materials of another sort, and capable of being entirely devoted to ethnological necessities." The total cost of land, building, and equipment was 936,000 Mk., which comparatively moderate expenditure was achieved as the result of careful fore-planning and the avoiding of waste in space and useless ornamentation. The geographical region best represented in the museum is the Pacific Ocean (Südsee), Africa coming next. America and Asia are rather unevenly and incompletely represented in comparison with Africa, and particularly the South Sea.

The arrangement of the material is by culture-element, within culture-areas. Among devices in use or contemplated for the increase of popular interest are the phonograph (e. g. for music), kinematograph, stereoscopic apparatus, photographic post-cards, public lectures, etc. The library contains some 2,980 volumes, including periodicals, etc.

The next article is a monograph (pp. 71–184, 65 figs.) by F. Graebner on "The Ethnology of the Santa Cruz Islands," treating of dress and ornament, houses and furniture, utensils, etc., arrangement of villages, economic life, fishing, navigation, trade, work and industry, implements, manufactures, politics, war, weapons, family and social life, religion, play, music and dancing, art, etc., culture-history. The basal culture of this part of Melanesia, according to Graebner, is a comparatively pure totemism, deeply influenced at first by the proto-Polynesian culture, carrying with it, however, elements of the mask and bow culture of Melanesia. More recently are to be noted relations with Micronesia (particularly the Carolines) at the period of the first formation of a specific Micronesian culture. Also long-continued, but much weaker, influences (still effective) from the Polynesian groups proper. Santa Cruz also has been the point of departure for, or has been crossed by, a culture-movement directed westward and reaching with its last outliers perhaps as far as the southern coast of New Guinea.

In his article (pp. 185–222, 22 figs.) on "The History of the Making of Iron, particularly the Bellows," W. Foy argues in favor of the unitary origin of

iron-smelting and the extension of the art from one region of the globe. He also is of opinion that the iron-technic presumes that of other metals as already existing. Of the two independently originating bellows derived from the blowing tube the leather bellows is the older. The earlier origins of this form of bellows may be connected with the smelting of copper and bronze, and therefore he considers the theory of Luschan and others, that the manufacture of iron originated among the African Negroes, untenable. He rejects likewise Ridgeway's Central-European theory. The higher metal-technic, with the higher form of bellows, typical for the iron-technic, had their point of departure, Foy thinks, in Asia Minor, or in the neighboring parts of the Asiatic interior.

The Miscellaneous section consists of brief articles by F. Graebner on "Hammocks from New Guinea" (pp. 223–224, 1 fig.), "Wood-carving from German New Guinea" (pp. 224–225, 1 fig.), "An Animal-shaped Vessel with Cover, from the S. E. Solomon Islands" (pp. 225–226, 1 fig.); and by W. Foy on "Australian Spindles" (pp. 226, 230, 1 fig.), "South African Witch-Dolls" (pp. 231–233, 3 figs.); also articles of a comparative nature by F. Graebner on "Back Ornaments in the South Sea" (pp. 235–239, 3 figs.), and by W. Foy on "Australian Flat Clubs and their Cognates" (pp. 245–262, 18 figs.), "An Ancient Method of Adornment" (pp. 262–266)",—treatment of ornamentation of objects by means of seeds, shells, etc., imbedded in resin, etc. The article on the "Nose-Flute" is well documented and considers also certain kinds of mouth-flutes. Oceania and Southern Asia form the characteristic area of the "nose-flute", but it is known also from Africa and even, perhaps, America. F. Graebner has also a note on "A Bow-Shield from New Guinea" (pp. 233–234, 1 fig.). A good index (pp. 266–282, 3 cols. to the page) completes the volume.

ALEXANDER F. CHAMBERLAIN.

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Contents: The Basin of Lake Titicaca, pp. 1–38. The Islands of Titicaca and Koati, pp. 39–58. The Indians of the Island of Titicaca, pp. 59–162. The Ancient Ruins of the Island of Titicaca, pp. 163–256. The Ruins on the Island of Koati, pp. 257–290. Aboriginal Myths and Traditions Concerning the Island of Titicaca, pp. 291–340. List of Indigenous Plants, pp. 341–342. Index, pp. 343–358.

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BURTON, FREDERICK R. American Primitive Music with Especial attention to the Songs of the Ojibways. New York: Moffat, Yard & Co., 1909. 8°, 281 pp. text, 72 pp. music "harmonized and provided with English words," 7 pp. index.

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HARTLAND, E. SIDNEY. Primitive Paternity. The Myth of Supernatural Birth in Relation to the History of the Family. London: David Nutt, 1909. Two vols. 8°, viii, 325; (vi,) 328 pp.

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HUBERT, H., *and* MAUSS, M. Mélanges d'histoire des religions. Paris, 1909. 8°, 42 + 236 pp.

IYER, L. K. ANANTHA KRISHNA. Cochin tribes and castes. Madras, 1909. Vol. 1; 8°, 30 + 366 pp. ill.

KER, ANNIE. Papuan Fairy Tales. London: Macmillan & Co., Ltd. 12°, xi, 149 pp., 13 pl.

KETKAR, SHRIDHAR V. The History of Caste in India. Evidence of the Laws of Manu on the Social Conditions in India during the Third Century A.

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The author is a United States Indian inspector, and was formerly agent to the Sioux at Devils Lake and Standing Rock agencies, North Dakota. His wide experience with Indians and his long official association with them have made him an authority on the recent history of many of the tribes.

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Contains the following papers of anthropological interest: William Clark—The Indian Agent, by Harlow Lindley. Ethnological Problems of the Lower Mississippi Valley, by John R. Swanton. Remarks on the Study of Aboriginal American History by William H. Holmes.

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Contents: A. L. Kroeber: The Archæology of California. J. Walter Fewkes: Ancient Zuñi Pottery. Charles C. Willoughby: Pottery of the New England Indians. William C. Mills: The Seip Mound. Charles W. Mead: The Fish in Ancient Peruvian Art. Warren K. Moorehead: A Study of Primitive Culture in Ohio. Marshall H. Saville: Cruciform Structures of Mitla and Vicinity. George Byron Gordon: Conventionalism and Realism in Maya Art at Copan, with Special Reference to the Treatment of the Macaw. George H. Pepper: The Exploration of a Burial Room in Pueblo Bonito, New Mexico. Alice C. Fletcher: Tribal Structure: A Study of the Omaha and Cognate Tribes. Charles P. Bowditch: The Dates and numbers of pages 24 and 46 to 50 of the Dresden Codex. Alfred Marston Tozzer: Notes on Religious Ceremonials of the Navaho. Charles Peabody: Certain Quests and Doles. Zelia Nuttall: A Curious Survival in Mexico of the Use of the Purpura Shell-fish for Dyeing. Pliny Earle Goddard: Gotal—A Mescalero Apache Ceremony. S. A. Barrett: The Cayapa Numeral System. Aleš Hardlička: Stature of Indians of the Southwest and of Northern Mexico. Franz Boas: Notes on the Iroquois Language. Roland B. Dixon: Outlines of Wintun Grammar. John R. Swanton: A New Siouan Dialect. Harlan I. Smith: Primitive Industries as a Normal College Course. George A. Dorsey: A Visit to the German Solomon Islands. G. L. Kittredge: The Pillars of Hercules and Chaucer's "Trophee." F. N. Robinson: Notes on the Irish Practice of Fasting as a means of Distraint. C. H. Toy: Dusares. Frances H. Mead: Bibliography of Frederic Ward Putnam.

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Contents: Totémisme et culte des enseignes à Rome. Tabou, totémisme et méthode comparative. Du chamanisme. Pourquoi on se fait Musulman au Bengale. Le Druidisme était-il une institution Celtique? À propos de Jeanne d'Arc. L'interprétation "astrale" des mythes et légendes. L'idée d'évolution dans les légendes des demi-civilisés. Le masque de fer, une solution nouvelle. La valeur historique du folk-lore. Y a-t-il progrès de la civilisation? Antiquités et chansons de Haute-Savoie. L'origine des runes et des alphabets. Une nouvelle écriture Nègre. Le bovaysme collectif (II). Essai d'une théorie des langues spéciales.

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WATERMAN, T. T. The Religious Practices of the Diegueño Indians. University of California Publications in American Archaeology and Ethnology. Berkeley, 1910. Vol. 8, no. 6. 8°, pp. 271–358, pls. 21–28.

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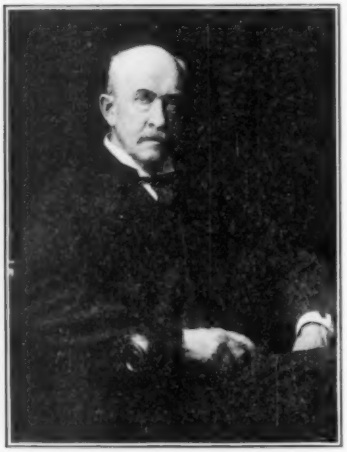
ZEISBERGER, DAVID. History of Northern American Indians, edited by Archer Butler Hulbert, and William Nathaniel Schwarze. In Ohio Archeological and Historical Quarterly, vol. xix, Jan. and Apr., 1910, nos. 1 and 2. Columbus, Ohio: Published by the Society Office. 8°, 189 pp. (Price $1.50.)

ANTHROPOLOGIC MISCELLANEA

William Graham Sumner.— It was said of Charles Darwin that he was the last great "naturalist," that is, the last man who knew the whole field — who was a geologist, biologist, botanist, and all the rest, and capable of the transcendant scientific effort of a great synthesis comprehensive within what was once called "natural history." Similarly of James Dwight Dana, it is said that he was the last great geologist; now we have structural geologists, paleontologists, physiographers, as special kinds of geologists, or, at least, as intellectual descendants of those who bore the once comprehensive term. In like manner it could be asserted that William Graham Sumner was the last great anthropologist—taking the term in his own broad sense, for he defined anthropology as the science that makes a study of the human group, of its relation to its habitat, and of membership in it. We now have somatic anthropologists, prehistoric archeologists, economists, political scientists, sociologists, and so on; but Sumner knew a great deal about all the social sciences, and was an expert on several. I do not mean that Sumner was equally at home in all these lines —even Darwin's acquirements were uneven,— but that he had this comprehensive background to his work. I do not mean that he spread out beyond the field of the social sciences as some of our venerable scientific fathers have done, but that he covered more completely and thoroughly than anyone is likely soon again to do the several divisions of this field. And when one realizes the amount of teaching and administrative work Professor Sumner did, as compared for example with some of the non-teaching scientists, the marvel of his comprehensiveness increases.



William Graham Sumner.

Professor Sumner was one of the first two or three prominent economists in this country, and he was the first to teach sociology. The major interest of his career lay apart from physical and prehistoric anthropology toward the disciplines based upon ethnography and history. He never did any "field-work" so far as I know. Nor did he, on the other hand, display any of those leanings toward metaphysics and the intuitional which have vitiated so much work in the social sciences. He repelled all this with the greatest scorn and had a strong leaning toward the natural sciences, often regretting his defective training in these lines. But it would not be fair to say that he was a closet-philosopher, for he possessed a wide and accurate knowledge of one part, at least, of the field — the economic and political organization of America and Europe.

The comment used to be heard that Sumner had made a great mistake in giving up political economy in the nineties, and some could not understand how he could surrender a specialty in which he stood so high unless his working days were over. But those who heard his courses in the Science of Society, and, at length, those who read the "Folkways," had no doubt that he had moved from the narrower into the wider field; and those who came to know him better learned that the general science of society, rather than any one of its branches, had been his interest from the beginning. He left behind him a great mass of materials and manuscript, as the reader of the preface to "Folkways" could infer, which witnessed to his absorption in his earliest and latest scientific interest.

The dominant note of Sumner's thought was hard common-sense; this was coupled with a thoroughgoing intellectual honesty and with the courage of conviction. Such qualities have not failed of their effect, even though he did not live to aid sociology in attaining to the vertebrate stage. For generations of Yale men carry about with them, in their personal "mores," the healthy intellectual ideals inculcated with unflinching insistence by this great teacher and man. Sumner not only studied the science of the *anthropos*, but he knew men, and he made them.

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On Phonetic and Lexic Resemblances between Kiowan and Tanoan. — Certain phonetic and lexic affinities between Kiowan, Tanoan, and also Shoshonean, have been pointed out by Buschmann, Gatschet, and others. In examining the Kiowa vocabulary obtained by Mr James Mooney and published in the *17th Annual Report of the Bureau of American Ethnology*, part 1, pages 391–440, the writer notes to his surprise how strong these Kiowan-Tanoan similarities are. Should it be finally

proved that these two "stocks" are really related, either genetically or by mixing, the conclusions would be most interesting, since history traces the migrations of the Kiowa from their former homeland at the headwaters of the Missouri river, while the Tanoans are in every repect a typical Pueblo people.

The Kiowa sounds as recorded by Mooney are: a, ą́, â, ą̂, e, i, ı̨́, o, u, ų́, (û), ai, uą̆, ią̆, ia, ąo, ñ (sign indicating nasalization of the preceding vowel), b, d, g, h, k, k', kˁ, kw, l, m, n, p, p', s, t, t', w, y, z. The Tanoan sounds, dialect of Taos pueblo, are: a, aⁿ (ⁿ indicating nasalization of the preceding vowel), ą̄, ąⁿ, i, iⁿ, â, âⁿ, u, uⁿ, ǫ́, ąⁿı̨́, ąⁿų́, ą̂ı̨, ą̂ⁿı̨, uⁿı̨, ą̆ı̨, ą̆ų́, ı̨ą̄ⁿ, ı̨ą̄, ı̨ų́, ą̂ı̨, ų́ą̆, ų̂ı̨, ǫ̆ą̆, ǫ̆ı̨, b, d, g, h, j (= y), k, k', kˁ, kw, l, ɬ, m, n, p, p', pˁ, s, t, t', tˁ, ts, ts', w, x, xw. Besides k, p, t, Mooney mentions kˁ ("explosive"), p' ("aspirated"), and t' ("aspirate"). Tanoan possesses in addition to k, p, t also k, p, t exploded with much breath (written kˁ, pˁ, tˁ) and k, p, t grunted, i. e., accompanied by simultaneous closure of the glottis (written k', t', p').

In the brief vocabulary the following striking lexic resemblances were noted. The Kiowa words and their meaning as recorded by Mooney stand first together with a reference to the page of the Report cited above on which they occur; Tanoan forms taken from the Tiwa, Tewa, or Jemez (Towa) languages follow.

a, a game, 433: Tewa e, a game.

ą́-, I, personal pronominal prefix on many verb forms: Tewa â-, Tiwa â-, I.

ą́ą́', I come or approach, 391: Tewa ą́ⁿą́ⁿ, Tiwa ą́ⁿ, Jemez ı̨ⁿ, to come.

â'dal, hair, âdal- in composition sometimes head, 391: Tewa p'o, Tiwa p'ı̨-, head. For the loss of p'- compare Kiowa o'nto, five (see below).

ai'deñ, leaves, foliage, 393: Tiwa ǫ́, Tiwa (Piro dialect, Bartlett's vocabulary) a-o-, leaf, Jemez ą́, leaf.

an, a track, 394: Tewa aⁿ, Tiwa ieⁿn-, a track.

ą́'ñgya, he sits, 394: Tewa ą́ⁿ, to sit.

anso', anso'i, a foot, 394: Tewa aⁿ, Tiwa ieⁿn-, Jemez oⁿts'ąc, a foot.

a'tăntai', salt, 396: Tewa a, salt.

be-, imperative pronominal prefix (?) in bemą́'!, lie down!, 408: Tewa bi-, imperative pronominal prefix.

bon, crook, in pabo'n, fur crook, crooked lance wrapped in fur, 415: Tewa mbuⁿ, crook.

bot, stomach, belly, 397: Tewa pu, stomach, belly, buttocks.

dom, dâm, earth, under in composition, 400: Tewa naⁿ, Tiwa naⁿm-, earth, Jemez dąą́, earth.

eho'tal, kill, 434: Tewa he, Tiwa hu, Jemez ʻō, to kill.

gi, meat, flesh, 402: Jemez gi^{n}*w*ni^{n}, meat, flesh.

-gya, locative suffix equivalent to at or in, 405: Tewa -ge, Jemez -gi, -ge'ei, locative suffix.

hi'ădāl, a creeklike depression or shallow valley without water, 407: Tewa hê, small dry valley, arroyito.

hodal, sickness, 407: Tewa he, sickness, Jemez ʻo, sickness.

i, child, offspring, diminutive suffix, 407: Tewa ê, child, offspring, diminutive suffix.

ka, robe of skin, buffalo robe, 408; ka'-i, hide, 434; kagya, skin, 437; ka'ñi, shell or rind, 400: Tewa kʻowa, Tiwa kʻāi, skin, hide, bark.

kʻa, he is lying down, 394: Tewa kʻo, Tiwa kʻa, to be lying down.

kʻa, knife, 408; kʻa'-ikon se'se stone arrowhead, 421: Tewa kʻo, stone, stone knife, stone axe, kʻotsê, stone arrowhead.

kʻan, hard, 409: Tewa kʻe, hard.

kâ'ñgya, name (noun), 435: Tewa kʻâ^{n}wā, Tiwa xâ^{n}-, Jemez hi^{n}, name.

-kʻi, -kʻia', man; -kʻi'āgo, gyāko, people, 410: Tewa k'ema, Jemez k'yabâ, friend, man, friends, people.

kʻodal, neck, 435: Tewa k'e, Tiwa k'ŏă-, neck.

koñ, black, dark, night; koñ'kya, black, 412: Tewa kʻu^{n}, dark, night.

mahi'ñi, owl, 436: Tewa mahu'^{n}, owl.

mân, root of finger, hand, arm; mândă', arm, 414: Tewa mâ^{n}, Tiwa ma^{n}n-, Jemez ma^{n}te, hand, arm.

mâ'ngo'm, index finger, "literally pointing finger" (although no such form as gom can be found elsewhere in the vocabulary), 414: Tewa mâ^{n}kʻu^{n}, Tiwa ma^{n}xu^{n}-, finger, meaning literally extremity of the arm.

-mä'nte, walking, 439: Tewa mä^{n}, Tiwa mä^{n}, Jemez mi^{n}, to go.

mă'să', six, 414: Tewa si, Tiwa ma^{u}'li, ma^{n}sli, Jemez mi^{n}styi, six.

om, a drop of blood; oñ'kya, blood, 431: Tewa u^{n}, Tiwa o^{n}n-, Jemez ō^{n}, blood.

o'nto, five, 433: Tewa p'ano, Tiwa p'anyua, Tiwa (Isleta dialect) p'anto, Tiwa (Piro, Bartlett's vocabulary) an-tao, Jemez p'ints'o, five.

p'a, moon, month, 415: Tewa p'o, Tiwa p'a, Jemez p'ää, moon, month.

p'a, river, creek, stream, 415: Tewa p'o, Tiwa p'â, Jemez, p'ä, river, creek, stream, lake, water.

pa, fur, down, 415: Tewa p'o, Tiwa p'a, Jemez *f*wolâ, fur, down, hair.

pa'gi, downy, 415: Tewa p'ogii, downy. Compare Kiowa pa, fur, down (see above).

pä'go, pä'nyi', one, 416: Tewa wi . . . pi, not one, Tiwa wa . . . pu^n, not one, Jemez p'u^n, one.

pai, sun, 416: Tewa pa-, sunshine; Jemez pe, pei, sun.

pai'gya, summer, 416: Tewa payoge, payogeri, Tiwa pi-, Jemez pec, peic, summer.

pa'ki, thigh, 416: Tewa po, Tiwa pa-, thigh.

pä'o, three, 416: Tewa pa'yo, Tiwa pa'yäü, three.

piă, fire, 418: Tewa p'a, Tiwa p'a-, Jemez *f*wayâ, fire.

pi'ăya, summit, top, 418: Tewa pi'ge, summit, top, pi'ye, up to, over to, down to, pi, to ascend.

po, trap, spider web, 418: Tewa p'o, hole, pitfall.

p'o, beaver, 418: Tewa oyo, Tiwa p'âyâ-, beaver.

p'odal, plural p'ota, worm, reptile, insect, snake; used for both creeping and flying insects, including flies, and occasionally for snakes, but not for turtles, 418: Tewa p'o*v*e, worm, reptile, insect in the larva and pupa state; full fledged insects are spoken of by specific names or are called p'unyu, flies.

poläñ'yi, rabbit, 418: Tewa pu, po, rabbit.

sa'dal, masticated food in the stomach, intestine, belly, 419, sa'gya, dung, 433: Tewa sa, dung, contents of the bowels.

sâ'he, blue, green, 419: Tewa tsa^{n}wäii, sa^{n}wäii, blue, green.

sa'top, pipe, 420: Tewa sa, tobacco, sak'o, pipe, meaning literally tobacco stone.

sen, nostril, 420: Tewa so, mouth, nostril.

senpo, moustache, beard, 420: Tewa so*v*o, sop'o, moustache, beard, meaning literally mouth hair. Compare Kiowa pa, fur, down (see above).

se'se, arrowhead, 421: Tewa tsi, sê, arrowhead, obsidian flake. Compare Kiowa k'a-ikon sese, stone arrowhead, and Kiowa sâ'he, blue, green (see above).

se'tä, the small intestine of the buffalo cow, cow intestines, 421: Tewa si, intestines, belly.

señ, prickly; se'ñi, cactus, 420: Tewa so^n, prickly, cactus.

t'a, antelope, 422: Tewa t'o, Tiwa t'a-, antelope.

t'a, ear, 422: Tiwa t'alõ-, ear, t'a to listen, t'a, ear, in noun + verb compounds.

t'añ, white, 423: Tewa ts'äii, white.

tañ'gia, deer, 424: Tewa ta, Tiwa tõ-, elk.

t'o, cold, 426: Tewa t'i, cold.

t'ogya, coat, shirt, 426: Tewa t'o, shirt, clothes, covering, especially Indian covering for the upper part of the body.

tseñhi, dog, 428: Tewa tse, se, Tiwa tsul-, dog.

-tse'yu, a suffix denoting a pet or domesticated animal or the young of an animal, 428: Tewa tsāii, tsāyo, sāii, sāyo, little, pet, young of an animal, child, sweetheart.

yi'ā, two, 416: Tiwa yīābata, second, other.

yi'ā'gyā, four, 416: Tewa yo'nu, four. Compare Kiowa yi'ā, two (see above).

Several other words and features resembling Tanoan, not noted above, were observed in the Kiowa vocabulary.

JOHN P. HARRINGTON.

The Proper Identification of Indian Village Sites in North Dakota: A Reply to Dr Dixon. — In a recent number of the *American Anthropologist* (July–Sept., 1909), Dr Dixon of Harvard University has attempted to overthrow the conclusions reached in a discussion of typical Indian villages of the Missouri valley published in Volume II. of the Collections of the State Historical Society of North Dakota. It is unfortunate that it has seemed necessary to reopen the unpleasant subject of the Peabody Museum exploration of one of our old Indian village sites fifteen miles from our state capital. But while the general public is not especially interested in this matter, Dr Dixon's criticisms have raised several questions of no little scientific interest.

One of the principal defects in the Peabody Museum study of the Mandan lies in the fact that its authors do not seem to have suspected the existence of any but archeological and documentary evidence on the early life of the Mandan. To quote from their opening remarks "On the ethnological side little further research is possible owing to the practical extinction of the tribe." But this sweeping generalization expresses merely the current gossip about the Mandan. On the Ft Berthold reservation, at that time, there were some fifty Mandan families, still represented by descendants of that tribe, and there were, besides, many times that number of pure Hidatsa stock, whose long and intimate association with the Mandans made them well worth careful study. The State Historical Society of North Dakota has been carrying on for five years a careful study of the ancient village sites of the Missouri valley, using the testimony of surviving Mandan and Hidatsa in conjunction with such evidence as could be drawn from careful surface surveys of a large number of sites. Specimens in great variety and number were

obtained from most of the sites, both from the surface and by excavation. In addition to this, extensive records have been made of the tribal history and mythology, along with such old songs, ceremonies, and tribal customs as are still to be found among the older members of the two tribes. Biographies of three of the oldest Indians have already appeared in our publications; they are a tribal record beginning considerably earlier than 1837 and are, therefore, practically contemporaneous with the Catlin-Maximilian documentary evidence. During the past summer the Society has examined some twenty sites with a representative from the Mandan and from the Hidatsa tribe. We retraced the old route of the tribal migration from near the Cannon Ball river to the Fort Berthold reservation. The record of the identification of the sites along this historic trail, with the accompanying surveys of each site, has placed in our hands a most valuable first-hand knowledge of the whole subject. We have for the present confined our efforts to the superficial survey of the whole valley so as to bring into a related whole the facts as to the sixty or more sites found there. Along with these labors we are seeking to secure permanently, as state reserves, such of the sites as seem most typical and which seem to contain the greatest wealth of archeological material. With our small appropriation and the limited force at our disposal, our progress has been far from what we would like to have it. As soon as we have accomplished these tasks, we shall set about the careful and scientific excavation of certain selected sites with a view of showing the interior structure of the dwellings erected on these sites, as far as the remains of the upright timbers can indicate it. The second result of the excavation will be to secure some record of the changing tribal life during the whole history of the village and the variations in the arts practiced here. Thus far not a single piece of archeological evidence has been offered on these rather fundamental subjects.

The collaborators of the Peabody Museum report excavated a considerable area in an unidentified village site, classified and described the large number of specimens found there, prepared a considerable number of fine plates illustrating their finds, quoted voluminously from all the authors available, but nowhere is there a particle of evidence adduced which can serve to identify the site they so laboriously studied. In fact it is quite certain from the arrangement and character of their material that not one of the authors or collaborators ever dreamed that this most essential point could ever be called in question.

But to take up the evidence introduced, as an afterthought, by Dr Dixon in defence of the Peabody Museum report. It is held by the

author of the article in the Collections of the State Historical Society of North Dakota that the three tribes, Mandan, Hidatsa, and Arikara, have each a distinct type of village arrangement which can be discovered by a careful surface survey. This conclusion is based on the unanimous testimony of the Mandan, Hidatsa, and Arikara Indians living on the Ft. Berthold reservation, and from a study of some twenty sites in the Missouri valley. From his knowledge of two sites in the state Dr Dixon feels competent to pass on the evidence offered from these above sources. He further insists that the Peabody Museum study is correct in identifying its site as Mandan because there are two places shown on the survey of the site where the holy place or "square" might be located. To quote from the study itself (page 151), "The greatest difficulty was in identifying the large village square or ceremonial place. Inside the first ditch, in the very center of the village is an area of about the right size but it is broken by three rings which appear to be house rings, one larger than any of the others. Between the first ditch and the second, however, there is a large open space of the proper dimensions and unmarred by any rings or mounds. It answers the description except that it is not located in the center of the village." As everyone who is at all familiar with the arrangement of the tepees in the Mandan village knows, there is in each village an open space or holy place in which stands the *ochta* and the *holy canoe*. The holy tepee faces directly upon the center of this space while around the same space are grouped the tepees of the most important men of the village, none of the doorways of their tepees, however, opening directly upon the center of the space. No other tribe possesses such an arrangement of tepees, the Hidatsa having no holy central place and the Arikara having a holy tepee in the middle of the space instead of at the side like the Mandan. In trying, therefore, to locate this essential feature of every Mandan village, the authors of this report are driven reluctantly to admit that it was not to be found, though they add, to be sure, that there were two places where this central space might possibly have been located, one which was not *central* and the other which was not a *space* at all. In further proof of the Mandan origin of this site, Dr Dixon asserts that the pottery found by the excavators was not Hidatsa but Mandan. He admits he has never seen any Hidatsa pottery but judges this pottery found by his party must be of Mandan origin because it is like that found on Mandan sites. He seems quite unaware of the fact that there has never been any scientific identification of any of the so-called Mandan pottery in the various museums where there are collections to be found. And he quite overlooks the fact that the Mandan and Hidatsa Indians have by long

and close tribal connection so blended their arts that no clear line of distinction has yet been drawn between them. The specimens of pottery in our own museum from over forty sites can at present be distinguished only by the labels locating the particular sites where they have been found. A study of one site alone out of the whole group would, of course, furnish no evidence of this rather elementary fact in the problem we are discussing.

Again, Dr Dixon finds proof of the Mandan origin of the village site in question from the absence of dog bones in the debris heaps excavated. Since Hidatsa villages were noted for their swarms of dogs, the absence of their remains would indicate a Mandan village, where fewer dogs are noted by travelers. This rather slender evidence is still further weakened by the fact that the larger part of the numerous debris piles on the site were not examined at all, so that the percentage of remains is too small to base conclusions of this kind upon. Furthermore, this argument entirely overlooks the well-known fact that both the Mandans and the Hidatsa have winter villages as well as summer villages. Even in Verendrye's Journal this fact is mentioned. Since the excavation under discussion was conducted in a summer village and no specimens were obtained from the debris of a winter residence, all conclusions as to food are thereby vitiated. If dogs were eaten at all, it would be only in times of scarcity, which would occur in the winter when game might fail and the severe weather would make hunting precarious. Winter villages of either the Mandan or the Hidatsa are not easy to locate, and the writer has located with certainty not more than three. But of one thing we may be sure, no matter how abundant dogs might be, they would not be eaten (except on ceremonial occasions) when such game as buffalo and antelope was plenty and an abundance of corn and other vegetable products was to be had, — which was the normal condition during the occupation of their summer residences. Still further in his review, Dr Dixon insists that the plate of a typical Hidatsa village site in the North Dakota Collections shows an open area like the holy place of the Mandans.[1] One feature of the plate, however, he entirely overlooks. In the Mandan village every doorway in the entire circle of tepees points inward, while in the Hidatsa village in the area designated four of the tepees open inward and five outward. It is a matter of common information among all the Hidatsa that their tribe has no such central holy space or holy tepee as the Mandan.

The author in Vol. II. of the Collections of the State Historical Society of North Dakota has also given a good deal of evidence to show

[1] *Collections of the State Historical Society of North Dakota*, II., pt. 1, p. 500.

that Verendrye's *Mantannes*, met by him in 1738 somewhere in the Missouri valley were really the present Hidatsa migrating southward.[1] The contention in brief is this, that the name *Mantannes* is a Cree name for a tribe living southwest of them in earth lodges. The historic Mandans never were north of the Knife river, while the Hidatsa were known to be as far north as Antler's creek, Mouse river, in Canada; that in the peculiar form of fortifications and in the absence of any central holy space or holy tepee Verendrye's two *Mantanne* villages could not be Mandan; and finally since Verendrye mentions two other tribes, the nearest only a day's journey south of the *Mantannes*, that these were probably the true Mandan and the Arikara, and were called by him "*panana* (*panaux*)" and "*pananis*" respectively.

In attacking these conclusions Dr Dixon again shows his lack of any very certain information of the Hidatsa. He does not seem to know that the Hidatsa at one time dwelt east of the Missouri river and far northeast of the old Mandan sites at Heart river. Matthews, the acknowledged authority on the Hidatsa, mentions this repeatedly, pp. 34–39.[2] Still further evidence is found in Vol. I. of our Historical Society publications (p. 340). The Historical Society is in possession of an Hidatsa account of their wanderings from the vicinity of Devils Lake to Assiniboine Island (Sibley Island), some distance below the mouth of Heart River, where they crossed the river at the invitation of the Mandan and ever after were intimately associated with them. Earlier than this they admit that some portions of their tribe were at war with the Mandan. All this evidence is in exact harmony with Verendrye's narrative. He came in contact with a tribe living in earth lodges in 1738, somewhere southwest of the north point of the Turtle Mountains in Canada. Since the Hidatsa were known in this region in earliest times, the *Mantannes* can only be identified as Hidatsa and not as Mandan proper. These people then lived at the mouth of the Little Knife and out in the prairie at a distance from the Missouri river. They told Verendrye of two other tribes hostile to them and building houses like themselves, the "*panana* (or *panaux*)" and the "*pananis*," the nearest at a day's journey from the southernmost of their villages, which was also the largest, undoubtedly the one on greater Knife river. A day's journey southward from the Knife is the Heart river, the early home of the true Mandan, while still farther south were the Arikara. This is in harmony with all the evidence and accounts for all the facts so far observed. In

[1] Ib., II., pt. 1, p. 502.

[2] Matthews, *Ethnography and Philology of the Hidatsa Indians*, Washington, 1877.

still further confirmation of this conclusion, it may be stated the author has recently discovered the site of the *Mantanne* village visited by Verendrye's son in 1738 and reported by him as being on a westward flowing river. Verendrye at the end of his journal refers again to this river as the *Mantanne* river and plans to revisit and explore it westward to its mouth. He did not know it was a part of the Missouri river at the south and neither did his sons four years later, when they crossed it for further exploration. Upon an old map of 1772 Verendrye's river is given as the "Mantons R. which is supposed to be the same as the Missouri."[1] It shows but a segment of the river and still further discredits the old theory that he came to the Missouri river at the mouth of the Heart river. This lower portion of the Missouri river is not indicated at all and no large tributaries appear as coming in from the west. A more careful reading and a more accurate translation of Verendrye's Journal will tend to correct the older and erroneous view as to where he went and what places he visited. But it is impossible to judge of the narrative from internal evidence alone, a thorough knowledge of the topography is absolutely essential as well as a full acquaintance with all the Indian village sites west of the Turtle Mountain area.

The same remarks apply to the journal of the two sons of Verendrye in the exploration (1742) of the region west of the great river discovered by their father in 1738. Their observations confirm in a remarkable manner the proofs above given of Verendrye's real line of travel in 1738.

O. G. Libbey.

Archeological Observations in South Dakota. — While the writer was traveling through a part of South Dakota he discovered mounds of earth which had apparently been formed artificially. Upon more careful investigation, it was found that there were four of them in a row extending north and south. They were built upon the highest portion of land north of and near to a small lake in section 23, Lynn Township, Day County, South Dakota. The largest one was the farthest north, the others in line and in order of size directly south about equally distant from each other, their bases nearly joining. They were round, and the larger one from one edge of the base over the top to the opposite edge was 18 paces. The smallest one measured in the same manner was about 8 paces. The second one from the north was somewhat smaller than the large one, and the third one from the north still smaller. The largest

[1] A General Map of America divided into North and South and West Indies, with the recent discoveries, London, 1772.

one was about 6 or 7 ft. above the common level. The farmer has plowed over them for several years and they have become worn down quite materially. The examination was only of the surface and that very limitedly done. However, enough evidences were easily discovered to satisfy the writer that these mounds were artificial and probably of Sioux origin.

Upon the surfaces of the mound and about them was to be found a great amount of buffalo bones. Several portions of human skulls and one femur were also found. One bead made from the shell of the Gastropod and many spawls of flint peculiar to the west rather than to the east were found. One piece of pottery was found on the surface of the smallest mound. All of these were found upon the surface in the wheat stubble.

After having become satisfied as to the nature of these mounds, a little time was spent in looking over the surrounding country. Upon another point of the high bank about 20 rods west of the mounds a somewhat extensive pile of rocks which had the appearance of having been placed there by man was discovered. This pile was about one foot above the surface, two feet wide, and eight or nine feet long, composed of water-worn stones which had probably been taken from the lake shore near by. Some of these stones would weigh quite fifty pounds, most of them probably not more than four to ten pounds each. Upon removing some of them at the north end there was discovered a continuous pile down into ground below the surface to a depth of at least six inches. This might lead one to believe the pile of stones to be artificial. As the writer had no means of investigating further, some inquiry was made at a near by farm house where it was learned that several stone implements and a great number of bones had been found about the mounds and that no systematic investigation had been made by anyone. From another farmer it was learned that several steel knives like those of a butcher had been plowed up there. Two of these were examined by the writer at the home of D. I. Williams, who had discovered them while plowing. Both presented one evidence of Indian ownership, i. e., the grinding of one side of the blade only. Upon one of them the word "Graves" stamped by the manufacturer, could still be easily deciphered. These knives were found where the farmers assumed that Indians had lived and they based their assumption upon the fact that stone implements, bones, pottery, and other evidences of continued residence are manifest.

Though no one knows of any Sioux having lived where these mounds are located, there is no doubt that they were, though perhaps long in building, erected by the same people who are known by the

farmers as Sioux Indians, and it is probable that Indians of recent times aided in their construction and in the erection of stone piles over the graves of their dead. It was learned that many stone piles are still in evidence in that section of the country. Many of these have been moved or torn down by the farmer who has invariably found human remains at a depth of 18 inches, or sometimes less, below the surface. All the farmers in this vicinity recognize these stone piles as Indian graves and always so speak of them.

The mounds as described, in structure so far as examined, in location, in the fact that they contain human bones and other bones, flint spawls upon and about them, potsherds and beads, suggest a Siouan origin. Everything so far discovered coincided with the mounds of Minnesota and Wisconsin, the origin of which has been attributed to the Sioux by Hon. J. V. Brower as well as Prof. N. H. Winchell.[1]

Another farmer in this vicinity, Mr Jacob Mork, of Pierpont, South Dakota, has in his possession a silver ear pendant, and a silver bead which was shown to the writer and which Mr Mork said he had found in a grave of but shallow depth which had been filled with stones and heaped up to some height. Several of these graves were found by Mr Mork and others upon his and other farms in that vicinity. In moving these stones, so that he would not be compelled to plow around them, he discovered, as his plow cut through the soil, a spot of very red earth about 14 inches across which attracted his attention, and upon investigation, he discovered a small metal object. He destroyed this while examining it and threw the fragments away. Upon further search with the aid of a pitch-fork, which was used in digging up and turning over the soil, he found another metal piece just like the one he had destroyed. This he kept, and it proved to be an ear pendant of silver, hand made and complete. The description of this is as follows. The ring for the lobe of the ear is about three eighths of an inch across and apparently made of silver wire. All parts are of silver. The pendant is attached to the earring proper by an intermediate hollow sphere of silver about one eighth of an inch in diameter. This pendant is of hammered silver, pounded flat and thin, then rolled into a funnel shape about one eighth of an inch across the wider or lower end and about one half of an inch long. The silver bead

FIG. 10.

[1] Prof. N. H. Winchell, *Pop. Science Monthly*, Vol. 19, May to October, 1881, and September, 1908; J. V. Brower in *Kathio*, page 128.

had been formed by a little cutting and hammering, and then rolling the ends up together. Upon close examination with the naked eye the word "REAL" was discovered upon the outer surface as indicated in the cut. This bead was very interesting and an examination was made by placing it under a pocket magnifying glass. True enough, the writer was holding in his hand the remains of a Spanish Real. How came the Indian in possession of this Spanish coin? Is this an evidence of trade? If so, who traded this with the Indians? Did Coronado distribute some Spanish coins among the Indians or did his priest, Padilla, who remained after the departure of Coronado to convert the Indians to Christianity and who was soon murdered by them, leave some of these coins among his effects?

This grave was located upon the northwest quarter of section 7, township 123, range 57 west, Day County, South Dakota, on Mr Jacob Mork's farm. Three other graves, as yet undisturbed, are located not far from this. These observations were made in the presence of Prof. J. H. Hetley, of Webster, South Dakota, and others in that vicinity, during the month of October, 1909. E. E. WOODWORTH.

Sinew Arrowheads. — The idea of arrowpoints of sinew seems so strange that reliable data on their manufacture and use may be a matter of some interest. In 1908 while engaged in field work under the auspices of the American Museum of Natural History I first heard of this arrow point when questioning Wolf Chief, a Hidasta full-blood, regarding the manufacture of points of buffalo horn. I quote his own words:

"Also, we hear that in old times arrow heads were made of the hard sinew that holds up the buffalo's head. The hard sinew was cut into pieces the shape of an arrow head; and these were held near the fire and hardened and sharpened. Such arrow heads were very good to hunt buffaloes with, because if the arrow point struck a rib it would go around the rib, without breaking off; but a flint arrow head would break if it struck a buffalo's rib."

Fearing the interpreter, or myself, had made a mistake, I hurried over to the cabin of Buffalo Bird Woman, Wolf Chief's sister, an old woman about seventy years of age. She corroborated the account in these words:

"I have also heard that arrow points were sometimes made of the thick, tough sinew that lies along the top of a buffalo's neck and holds his head up. It runs back into the hump, and is yellow when dry. Such arrow points, when dry, were hard. We called the big sinew *it-sú-ta*. I never saw any of these arrow points and do not know of what shape they were."

FIG. 11. — Sinew arrowpoint.

Later, I heard that two of these points were in possession of Pack's Wolf, one of which I secured. Neither Pack's Wolf nor my other two informants had ever seen one of these points made, and they were ignorant of the process.

Reasoning from analogous customs in the working of buffalo horn, I suspect that the sinew was cut into roughly shaped points and dried; that the points were then dipped in marrow fat, fried slowly over a fire, and worked into final shape while yet hot. Buffalo horn points were so treated.

I secured a piece of *itsuta* sinew of an ox and found it easily capable of taking a piercing edge. When dried its color was a translucent yellow like yellow horn. In color and hardness it was like the specimen, a sketch of which is appended by courtesy of F. N. Wilson (fig. 11). GILBERT L. WILSON.

A Possible Father for Sequoya. — In the long search for a possible father for Sequoya, George Geist (Guyst, Gist, Guest, Guess) I have seen nothing quite as suggestive as an item, in the New Jersey Colonial Archives. In Volume XX, First Series, page 212, among the old newspaper extracts, appears the following:

Forty Shillings Reward

Run away on the 15th day of May (1758) from Adam Leberger, of Pilesgrove in Salem County, in the Western Division of the Province of New Jersey; a German Servant Man, named George Leonard Geist, of a middle Size, about twenty Years of Age, full faced, and has yellow Hair: Had on when he went away, a Homespun light brown Jacket, lined with striped Lincey, a Pair of pretty good Buckskin Breeches, blackish Stockings, a Felt Hat, and pretty good Shoes. Whoever apprehends the said Servant Man, and secures him in any Gaol, so that his master may have him again shall have Forty Shilling Reward, and reasonable Charges, paid by

Adam Leberger

In the foregoing, we have the right name, date, nationality, and character of the man who is said to have married the Cherokee half breed girl in the Alleghany Mountains, and became the father of the quarter blood Cherokee who gained world-wide fame as the formulator of the Cherokee syllabary. C. A. PETERSON.

[Mooney (Cherokee Myths, 19th Annual Report of the Bureau of American Ethnology, pages 108–109) has the following to say regarding the birth and parentage of Sequoya:

The inventor (of the Cherokee syllabary), aptly called the Cadmus of his race, was a mixed-blood known among his own people as Sikwâ'yĭ (Sequoya) and among the whites as George Gist, or less correctly Guest or Guess. As is usually the case in Indian biography much uncertainty exists in regard to his parentage and early life. Authorities generally agree that his father was a white man, who drifted into the Cherokee Nation some years before the Revolution and formed a temporary alliance with a Cherokee girl of mixed blood, who thus became the mother of the future teacher. A writer in the *Cherokee Phoenix*, in 1828, says that only his paternal grandfather was a white man. McKenney and Hall say that his father was a white man named Gist. Phillips asserts that his father was George Gist, an unlicensed German trader from Georgia, who came into the Cherokee Nation in 1768. By a Kentucky family it is claimed that Sequoya's father was Nathaniel Gist, son of the scout who accompanied Washington on his memorable excursion to the Ohio. As the story goes, Nathaniel Gist was captured by the Cherokee at Braddock's defeat (1755) and remained a prisoner with them for six years, during which time he became the father of Sequoya. On his return to civilization he married a white woman in Virginia, by whom he had other children, and afterward removed to Kentucky, where Sequoya, then a Baptist preacher, frequently visited him and was always recognized by the family as his son.

Aside from the fact that the Cherokee acted as allies of the English during the war in which Braddock's defeat occurred, and that Sequoya, so far from being a preacher, was not even a Christian, the story contains other elements of improbability and appears to be one of those genealogical myths built upon a chance similarity of name. On the other hand, it is certain that Sequoya was born before the date that Phillips allows. On his mother's side he was of good family in the tribe, his uncle being a chief in Echota. According to personal information of James Wafford, who knew him well, being his second cousin, Sequoya was probably born about the year 1760, and lived as a boy with his mother at Tuskegee town in Tennessee, just outside of old Fort Loudon. It is quite possible that his white father may have been a soldier of the garrison, one of those lovers for whom the Cherokee women risked their lives during the siege. What became of the father is not known, but the mother lived alone with her son.

The identity of Sequoya's father with the man referred to in the newspaper extract cited by Dr Peterson would seem from this to be extremely probable.]

Inaccurate Anthropologic Data regarding India. — Anthropologists and sociologists are very often required to use the comparative method when they try to trace the origin of institutions or work on similar problems, but when they use this method it is of the utmost importance that their facts be accurate. No precaution can be too great in this particular if truth be at all the writer's aim. In a number of books on sociology and anthropology one sees references to the customs and manners of the Hindus, but I find on examination that, in a surprisingly large number of works the information is inaccurate, though the writers who err are very often considered authorities on the subjects of which they treat. It would not be surprising if similar mistakes had taken place in referring to the cus-

toms of China and Japan. Expert opinion should be consulted when possible regarding the use of material relating to a particular country, but for Indian literature I give here a few rules to guide those who may not be able to avail themselves of expert assistance.

I. Information published in governmental documents like the Imperial and provincial Gazetteers, ethnographic surveys, and Census Reports, forms the most important and most accurate data for anthropological purposes.

II. The writings of some prominent men of the Indian Civil Service come next in value.

III. Writings of casual tourists are almost useless, and those of Christian missionaries should be viewed with suspicion.

IV. In using the material furnished by the Sanskrit law-books and religious works expert assistance is necessary. Even most renowned European and American Sanskrit scholars make grave mistakes in interpreting the data, and an anthropologist, unless he is a Sanskrit scholar of the highest order, should not think of using it.

The number of students from India in this country is increasing and if a writer subjects his information to their criticism he will avoid some grave errors. Nevertheless the assistance of an Indian student would not be valuable in interpreting the material mentioned in IV. unless the Indian himself is an able Sanskrit scholar.

SHRIDHAR V. KETKAR.

The Bukidnon of Mindanao.— The following interesting information is contained in a letter recently received by the editor from Dr F. C. Cole, now in the Philippine Islands in the interest of the Field Museum of Natural History:

"We are working with the Bukidnon, a non-Christian tribe supposed to cover most of north central Mindanao. Two years ago this territory was organized into a sub-province and put in charge of an energetic American governor. He started in the center of the country, and, when we reached here, we found his work there so efficient and thorough that we had to come out here to a region where he has not as yet begun his operations. Probably no people emphasize better than these the necessity of pushing the work in ethnology now. Within range of the governor they have built roads and bridges and have model towns surrounding plazas where the grass is cut with a lawn-mower. The old dress has almost entirely vanished and the true Bukidnon is all under the surface.

"Out here the situation is better — from our standpoint. New ideas are creeping in, but it is still possible to study the old. The men wear trousers and jackets elaborately embroidered, and gorgeous cloths also embroidered surround their heads. The women wear gay patchwork jackets and skirts, and striking hair ornaments. Earrings and ear plugs are common, while around the neck, arms, ankles, and toes of every woman are bells and rings. Her heavy coin necklace jingles and clatters as she moves, so that it is truly a case of 'music wherever she goes.'

"Of the people themselves I can tell little as yet, for we have had only seven weeks with them and our ideas may change ere we leave. They seem to be mixed bloods, with the Negrito element by no means small. They build small towns where they live on occasion, but most of their time is spent on their clearings out in the brush. There they raise hemp, a little rice, corn, tobacco, and coffee. The soil is fertile and requires little work or attention to secure a good crop; but the 'hookworm' or his brother has bitten the people severely, and they barely manage to find enough to live on. The woods are full of deer and pigs but they are seldom molested. Traps are sometimes used, and at rare intervals the men hunt, but they are far from being ardent sportsmen. They have a rather highly developed ceremonial life and a bewildering lot of spirits. You get one nicely placed and have his functions well worked out when suddenly he becomes five or seven or ten."

Nebraska State Historical Society. — The recent meeting of the Nebraska State Historical Society at Lincoln, Nebraska, Jan. 17–19, was a success both as to attendance and variety of papers presented. Three sessions were held daily, in coöperation with the Territorial Pioneers' and the Mississippi Valley Historical Associations. The historical papers, dealing chiefly with early days in Nebraska and Kansas, covered a wide range, among the speakers being Reverend M. A. Shine, Hon. Eugene F. Ware, former Commissioner of Pensions, and Colonel George W. Martin, Secretary of the Kansas Historical Society. The archeologic discussion was led by Mr Elmer E. Blackman, curator for the Society, followed by reports from the various local fields. Ethnology was represented by James Mooney of the Bureau of American Ethnology, who spoke upon "Camp Life with the Kiowa," "The Indian Ghost Dance," and "An Aboriginal State Map." The aborigines of Nebraska were represented by Mr Alfred Blackbird, of the Omaha tribe, great-grandson of the famous chief, speaking in English, and by Mr Upton Henderson of the same tribe, speaking in his native language. The usual courtesies were ex-

tended by the local bodies and everybody seemed to feel that the meeting was an occasion of public concern. The offices and valuable collections of the Society, at present accommodated in the State University, will soon be housed in a fine new building, already under way, for which the legislature has made a preliminary appropriation of $25,000. Much of the success of the meeting and of the Society is due to the earnest work of its energetic secretary, Mr Clarence S. Paine.

JAMES MOONEY.

Annual Meeting of the American Anthropological Association. — The next annual meeting of the American Anthropological Association will be held in Providence, R. I. — where the Archoælogical Institute of America will also meet, — Dec. 28–31, 1910. Special attention is called to the amendments to the constitution which are to be acted upon at this meeting.

THE School of American Archæology of the Archæological Institute of America will continue during the year 1910 the work of exploration and excavation of ancient ruins with collateral ethnological and historical work in New Mexico, Utah, Arizona, and Central America. The season for work in the southwestern part of the United States is from June 1 to November 1; in Central America it is from December 1 to May 1. Properly qualified persons will be admitted to the field expeditions of the school or to undertake research work under its direction in Santa Fé or elsewhere, on satisfying the staff of their ability in original investigation. Those who desire to undertake such work should write the director, Dr Edgar L. Hewett, stating his or her wishes, giving such information as to qualification as would naturally be needed and stating when and for what length of time it is desired to take up the work.

THE Museum of the Department of Anthropology of the University of California has come into possession of a collection from an ancient burial site from the southwestern edge of the great San Joaquin valley, in Kern county, central California. The human remains indicate partial cremation followed by burial. Their state of preservation displays a hitherto undescribed mode of wrapping the limbs. A piece of Pueblo cloth is perhaps the first positive evidence of direct relations between the southwest and central California. Other objects show clearly the former existence in this region of customs and religious practices known in historic times only in southern California.

ON the evening of February 12th a reception was held at the University Museum in Philadelphia on the occasion of the opening of the

George G. Heye Collection of North American Ethnology, which had been installed during the preceding months. The collection occupies two large halls and forms a remarkably complete representation of the material culture of the tribes of the Great Plains and also of the Eastern and Southeastern tribes. The arrangement has been very carefully carried out, and the collection, both in the material which it contains and the manner of its exhibition, is one of the most notable and valuable of the great public collections of American ethnology.

MRS ZELIA NUTTALL has handed in her resignation as member of the Organizing Committee of the Seventeenth International Congress of Americanists, to be held in Mexico City next September, and has also renounced the title of Honorary Professor of Mexican Archeology at the National Museum, as a protest against the treatment she received from the Ministry of Public Instruction and the Inspector of Monuments in connection with her recent discovery and proposed exploration of the ruin of an ancient temple on the island of Sacrificios, off Vera Cruz. — *Science.*

A JOINT meeting of the American Ethnological Society and the Section of Anthropology and Psychology of the New York Academy of Sciences was held at the American Museum of Natural History, New York, on Monday, March 28. Papers were read by Mr Paul Radin on "Some Problems of Winnebago Ethnology" and by Mr A. A. Goldenweiser on "Australian Clan Exogamy." A meeting of the American Ethnological Society was held Wednesday, April 27, at which Dr Truman Michelson read a paper entitled "The Fundamentals of Algonkian Grammar."

DR AND MRS SELIGMANN have returned from their first exploratory ethnological survey of the Anglo-Egyptian Sudan, to which they were appointed by the Anglo-Egyptian government. They studied the hitherto uninvestigated Nubas of southern Kordofan, and the Shilluks, Dinkas, and Shir of the White Nile. A short time was spent between the White and Blue Niles, where a Neolithic site was discovered. Observations were made on the sociology and religion of various tribes, and some anthropometrical data were obtained, especially of the Nubas.

DR F. W. PUTNAM, Honorary Curator of the Peabody Museum of American Archeology and Ethnology, Harvard University; Dr R. B. Dixon, Assistant Professor of Anthropology, and Dr A. M. Tozzer, Instructor in Central American Archeology, have been appointed delegates of Harvard University at the foundation of the Mexican National University in September, 1910. Professor Dixon has also been appointed delegate at the International Congress of Americanists to be held at the City of Mexico at the same time.

DURING the month of February, Mr J. P. Harrington, of the School of American Archæology, gave a course of lectures at the University of Colorado on the ethnology and archeology of the Southwest. Since completing the instruction at Boulder, Mr Harrington has been among the Southern Ute, at Ignacio, Colorado, where he is engaged in studying the Ute language. It is definitely planned that Mr Harrington make a study and record of the Pueblo and related languages extending through a number of years.

THE Department of Archeology of Phillip's Academy at Andover, Massachusetts, has received as a gift from Professor Williams of Andover, the Steinbrück collection of archeological material from the Mandan sites of North Dakota. There are in all about nine thousand specimens, and the collection is especially rich in unusual types of bone implements and in the smaller stone objects; among these are rare forms of scrapers, double and single.

BY a letter to the Berliner Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte dated September 17, 1909, Alfred Maass has established a gold medal to be awarded triennially by the Society to the person who, in the intervening period, has performed the most distinguished service in any of the subjects for which the Society stands. The first award was made November 20, 1909, to Albert Grünwedel, leader of the third Turfan expedition.

DR EDWARD SAPIR has just published a volume entitled *Takelma Texts* in the Anthropological series of the University of Pennsylvania Museum. At the present time, Dr Sapir, in addition to his work of teaching at the University, is engaged in a study of Ute linguistics and mythology with the assistance of Tony Tillohash, a Ute Indian from Kanab, Utah, who has been spending several months at the University Museum.

DR ALEŠ HRDLIČKA has been appointed full curator of the Division of Physical Anthropology in the United States National Museum. April 1, accompanied by Dr Bailey Willis as geologist, he left for South America to study the remains of early man on that continent. He also expects to undertake anthropological work in Peru and Bolivia on behalf of the Smithsonian Institution.

ON May 16, Dr E. L. Hewett lectured before the University of Colorado Scientific Society at Boulder, on his recent work on the ancient monuments at Copan in Honduras and Quirigua in Guatemala. He has been able to determine the order of development of the art, his results according perfectly with the dates worked out independently from the glyphs by his colleague Mr Morley.

MR WILSON D. WALLIS, who has been Rhodes Scholar at Oxford from Maryland during the last three years, has been appointed Harrison Research Fellow in Anthropology at the University of Pennsylvania for 1910–1911. Mr Wallis has been studying anthropology during his residence at Wadham College, Oxford, and will take his A.M. degree this spring.

SINCE the return of the DeMilhau Peabody Museum South American Expedition of Harvard University, Dr William C. Farabee has received from the Universidad Mayor de San Marcos de Lima a diploma as honorary member of the faculty of sciences in the university, for "scientific merits and important services rendered to the government of Peru."

AT the American Museum of Natural History Dr Pliny E. Goddard has been appointed Associate Curator in the Department of Anthropology. Mr Harlan I. Smith has been advanced to an Associate Curatorship, Dr Herbert J. Spinden has been appointed Assistant Curator, and Mr Alanson Skinner has been added to the list as Assistant.

DR ALFRED M. TOZZER, Instructor in Anthropology at Harvard University, and Mr R. E. Merwin have returned from an expedition to British Guatemala and Honduras. They bring back a collection of antiquities from the four ruined cities which they discovered during the winter's work.

DR FRANK G. SPECK of the University of Pennsylvania spent two weeks at the Easter holidays among the Penobscot Indians at Old Town, Maine, where he collected a number of songs and other material of great value for the ethnology of the eastern Algonquians.

THE ECKLEY B. COXE, JR, EXPEDITION TO NUBIA, of the University of Pennsylvania, reports the excavation of a 12th Dynasty Temple on the site of Behen, opposite Wady Halfa, where a number of fine statuettes and inscriptions have been brought to light.

DR HERMON C. BUMPUS, Director of the American Museum of Natural History, is making an expedition to Mexico to plan the reproduction of certain prehistoric ruins for structural use in the new hall of Mexican archeology.

THE only anthropological paper presented at the annual session of the National Academy of Sciences held in Washington, April 19 to 21, was that of Dr Franz Boas on "The Influence of Environment upon Human Types."

DR CHARLES PEABODY, of Harvard University, has returned from North Carolina, where, during the month of May, he explored two groups of small mounds in Cumberland County, near Fayetteville.

DR FREDERICK STARR, Associate Professor of Anthropology in the University of Chicago, who has been conducting anthropological researches in Japan since September, returned to Chicago in June.

DR GEORGE GRANT MACCURDY has been appointed to represent Yale University at the International Congress of Americanists to be held in the City of Mexico, September 8 to 14, 1910.

THE seventh International Congress of Criminal Anthropology, which was to have been held at Cologne in August next, has been postponed until October, 1911.

PROFESSOR JULIEN FRAIPONT, Rector of the University of Liège, well known for his writings on anthropology and geology, died on March 22 in his fifty-third year.

J. W. LOWBER, Ph.D., F.R.G.S., F.R.A.S., of Austin, Texas, has been elected a Fellow and Councillor of the North British Academy, Newcastle upon Tyne.

NELS C. NELSON and Thomas T. Waterman have been appointed instructors and assistant curators in anthropology at the University of California.

MR H. C. BEYER, a student in the Graduate School of Harvard University, is now an ethnologist in the Bureau of Science at Manila.

ON February 1st, 1910, Dr G. B. Gordon, Curator of Anthropology in the University Museum, Philadelphia, was appointed Director of that institution.

PROFESSOR F. W. PUTNAM, of Harvard University, has been elected a corresponding member of the Societá Romana di Antropologia, of Rome.

DR ALEŠ HRDLIČKA, of the United States National Museum, has been made a corresonding member of the Anthropological Society of Vienna.

AT Dartmouth College Charles E. Hawes has been advanced from an instructorship to assistant Professorship in anthropology.

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